

THE ARCHITECT & BUILDING NEWS

9 SEPTEMBER 1954 · VOL. 206 · NO. 11 · ONE SHILLING WEEKLY

- ORGANIC LABORATORY FOR MESSRS. ILFORD
- HOUSING IN ROTTERDAM
- CURRENT MARKET PRICES

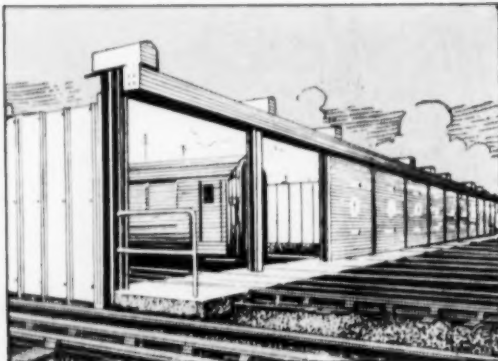
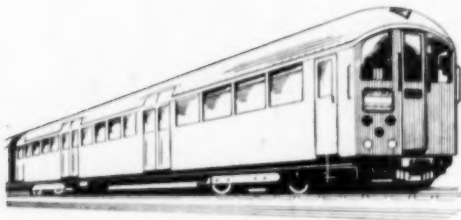
PUBLISHED IN LONDON SINCE 1854

**BRADY
SHUTTERS**

**ROLLING
DOORS**

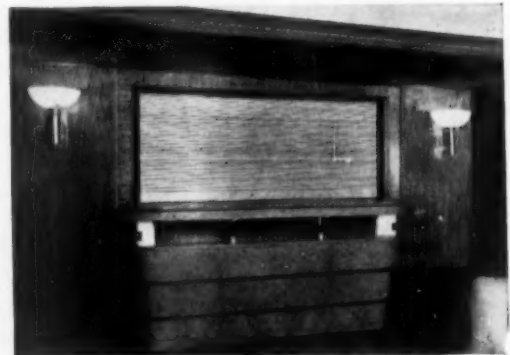
the doors commanding the world's largest sale

on land



LONDON TRANSPORT. Bank of twelve electrically operated steel shutters fitted at the London Transport Board's depot at Hainault.

and sea



THE "PACIFIC NORTHWEST" is a new ship of the Furness Withy Line serving Manchester, Vancouver and Pacific ports. She is a 10,000 ton ship and the Brady wood shutter is fitted on the bar.

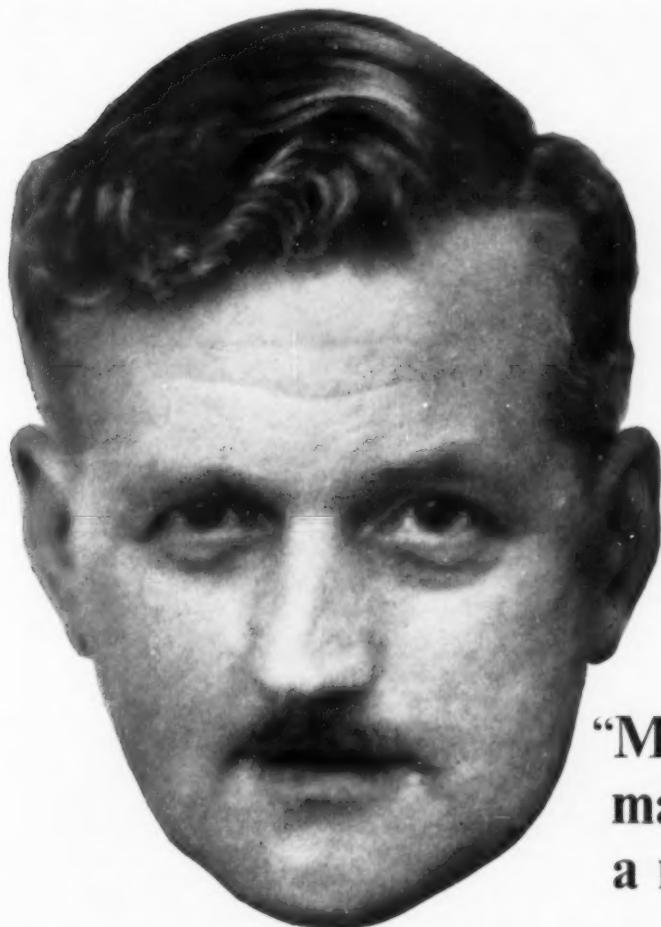
G. BRADY & CO. LTD. MANCHESTER 4 Telephone COLlyhurst 2797/8

LONDON New Islington Works, Park Royal, N.W.10
BIRMINGHAM Rectory Park Road, Sheldon, 26
CANADA David C. Orrock & Co. (G. Brady & Co. Canada Ltd.)
1405 Bishop Street, Montreal 25, Que.
and also at 23 Scott Street, Toronto, 1
U.S.A. G. Brady & Co. Ltd., 11 West 42nd St. New York 18, N.Y.
NORWAY An Thorbjørnsen, Kongensgate, 14, Oslo
And also at Cape Town



we shutter the world

MANUFACTURERS OF BRADY HAND AND POWER OPERATED LIFTS



"My husband is married to a metal window"

Says Mrs. Scott ruefully. "Twenty-five years," adds Mr. Scott with a twinkle in his eye, "and it doesn't seem a day too much." He has worked his way up the industry from drawing office in his youth to chief draughtsman and hence to production and sales. Now his South London area keeps him and his service team of representatives, draughtsmen, estimators and window fixers more 'than busy. But somehow he still finds time to do a spot of gardening and take a keen interest in the Scout movement. Amazing.

*MR. A. M. SCOTT, WILLIAMS & WILLIAMS LIMITED
81A High Street, Bromley, Kent · Ravensbourne 6274

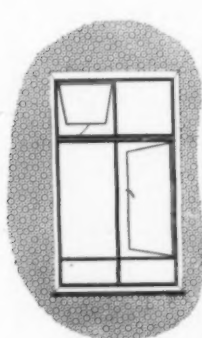
Other offices at : Belfast (23762). Birmingham (Shirley 3064).
Bristol (38907). Cardiff (27092). Glasgow (Douglas 0003).
Leeds (21208). Liverpool (Central 0325). London (Sloane 0323).
Manchester (Blackfriars 9591). Newcastle-upon-Tyne (21353).
Newmarket (2277). Nottingham (52131). Reading (2540).
Sheffield (51594). Southampton (76252). Tunbridge Wells (3269).

METAL WINDOWS

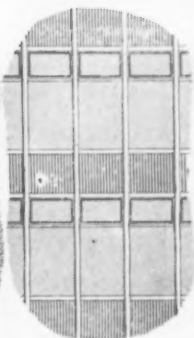
WILLIAMS & WILLIAMS



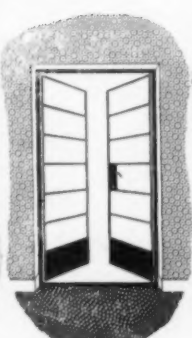
Member of the Metal Window Association



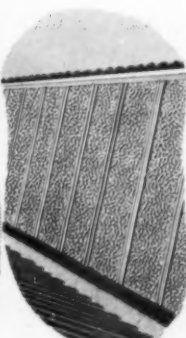
Metal Windows



Wallspan Curtain Walling



Metal Doors



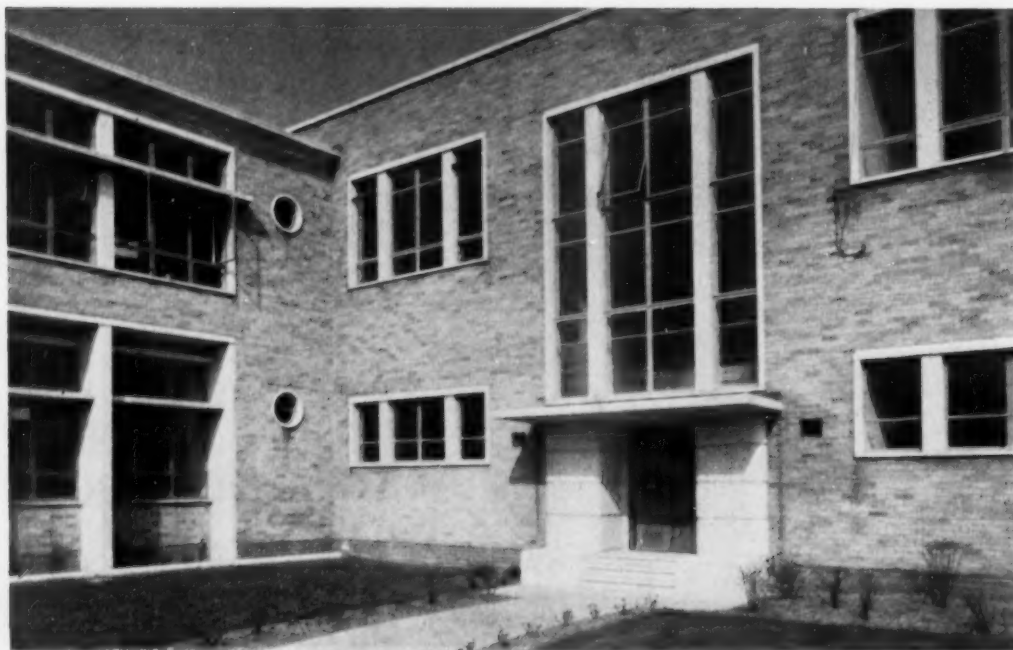
Aluminex



Metal Door Frames



Roftan Toilet Cubicles



S. VINCENT GOODMAN

COUNTY ARCHITECT BEDFORDSHIRE COUNTY COUNCIL

Empire Stone was used in the construction
of Stratton School, Biggleswade

Empire Stone Company Limited

THANET HOUSE, 231 STRAND, LONDON, W.C.2.

BERKELEY HOUSE, BIRMINGHAM 16

NARBOROUGH, Nr. LEICESTER

324 DEANSGATE, MANCHESTER 3





*Finest Wood
Fibre Hardboard*

MANUFACTURED IN FINLAND

THE MEDICAL PROFESSION AND PUBLIC HEALTH AUTHORITIES *are provided with an important contribution by the introduction of the Sugg Incinerator (Gas) No. 3707, to the need for safeguarding the nation's health. Its installation throughout this block of flats meets vital needs in dealing with both the disposal problem of personal and other refuse; and the destruction of potential sources of disease.*



MOSS HEIGHTS HOUSING SCHEME
CORPORATION OF GLASGOW

Literature upon request



WILLIAM SUGG & CO. LIMITED

(Incorporating COWPER PENFOLD & CO. LTD.)



VINCENT WORKS, REGENCY STREET, LONDON, S.W.1. Tel.: VICTORIA 3211 (4 lines)

Should you specify POLYTHENE or TUBEX piping?

Neither material is subject to corrosion; both can be machined or fabricated in the same way as metallic tubing, using standard plumbing equipment. The properties common to piping in both materials are working life of virtually infinite duration and outstanding resistance to the elements. The pipes are manufactured to the following tolerances:

$\frac{1}{2}$ " to 3" i/d	0.003 \pm
3" to 12" i/d	0.010 \pm

Polythene is flexible; bends of 90° can be obtained without moulded fittings. Recovery from severe stress is almost instantaneous. It is not recommended for carrying solutions containing oils, nor for temperatures above 70° C.

Tubex is one of the strongest known thermoplastics, its tensile and compressive strengths are considerably higher than polythene, and is therefore suitable for high pressures. Although unaffected by alkalis and normal soil acidity Tubex piping is not as acid resistant as polythene.

It is, however, completely impervious to all oils and hydrocarbons and suitable for use at temperatures up to 95° C.

We are most anxious that all the advantages, both technical and economic, to be gained from using piping made from these materials should be widely known. Our experienced staff and well-equipped laboratories are at your disposal.

TUBE EXTRUSIONS LTD

69, WIGMORE STREET, LONDON, W.1.

Phone: WELbeck 0213.

Manufacturers of Polythene and Tubex pipes from $\frac{1}{8}$ " to 12" internal diameter.

*Be right
with*

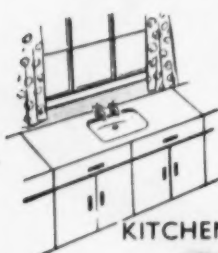


AT HALF THE PRICE

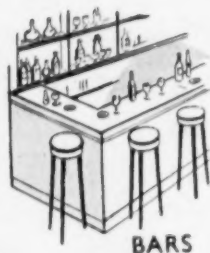
The new amazing

**Plastic
Faced Board**

Ideal for . . .



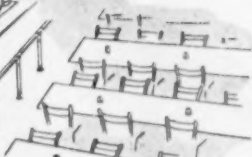
KITCHENS



BARS



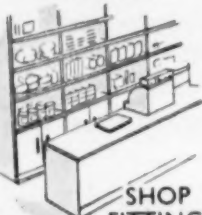
COUNTERS



CANTEENS



KITCHEN
FITMENTS



SHOP
FITTINGS

REMEMBER the name **BERITE**. You'll be asked about it often from now on. For this plastic board, at a startlingly reasonable price, is unbeatable for—

WEARABILITY!

The Plastic Face is washable, resistant to heat, alcohol and water. Can be cleaned by merely wiping. (Ideal for kitchens, bathrooms, hotel bars, etc.)

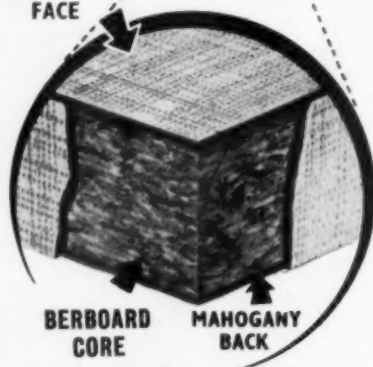
COLOUR APPEAL!

In any of five linen pattern shades; pink, blue, grey, green, buff.

ALL ROUND CONVENIENCE!

BERITE can be cut, worked, drilled, nailed and screwed with ordinary tools. Its convenient thickness ($\frac{1}{2}$ " or $\frac{3}{4}$ ") saves plywood bonding, etc.

**PLASTIC
FACE**



**BERBOARD
CORE**

**MAHOGANY
BACK**

Hardwood, Berlam or other suitable Edging as applied by consumers.

Already bonded to a $\frac{1}{4}$ " or $\frac{3}{8}$ " backing at amazingly low prices.

And BERLAM, a plastic-finished sheet, is obtainable separately—again at exceptionally moderate prices!

Both BERITE and BERLAM with basic user prices of 3/9—4/11 and 2/9—3/4 ex-works per square foot respectively are offered at prices, to the best of our knowledge, far cheaper than any comparable material on the market today.

★ STOCK SIZE SHEETS 8 ft. x 4 ft. and 4 ft. x 4 ft.

From your Merchants and Stockists, or if there is any difficulty, please write to us at Dept. BN

BERITE LTD

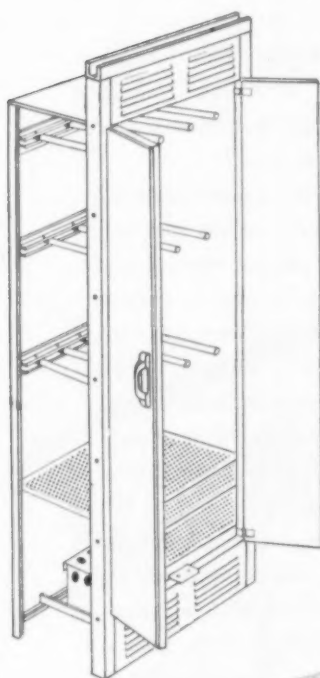
Lammas Road · Lea Bridge Road · London E.10

Built-in or free standing

The Flavel Clothes Dryer is available for various types of fitting. It can be supplied as a free standing unit or for building in on a site.

Eleven tubular Bakelite rails hold the clothes and in two hours 16lbs of wet wash can be dried ready for ironing at a very low cost. The burner unit comprises a perforated steel box heated by flame burners, and includes a constant pressure governor, tap and pilot flame control.

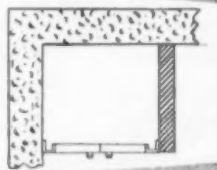
The cabinet is constructed of Zintec sheet steel and is finished in cream stone enamel paint.



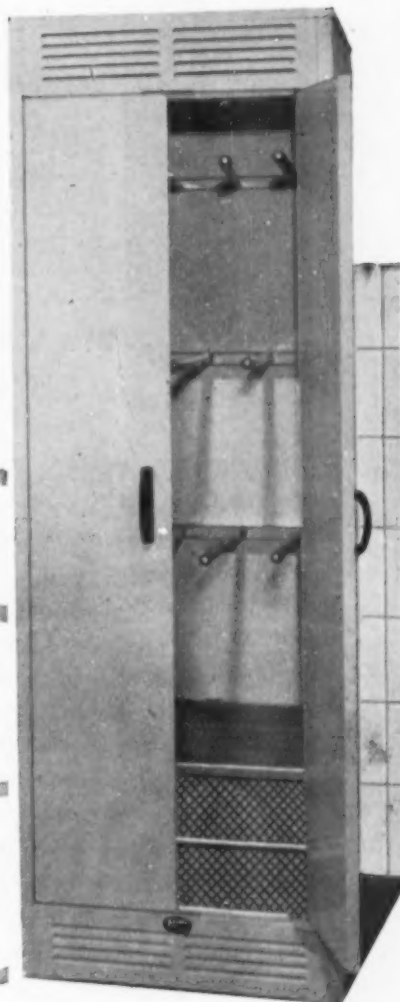
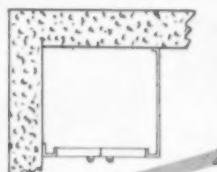
1 Built on existing wall face with breeze block sides.



2 Corner installation with breeze block right hand side.



3 Corner installation with metal panel right hand side.



The dimensions of the Free Standing model are 79 ins high and 24 ins deep, and the width inside the cabinet is 23½ ins.

FLAVEL CLOTHES DRYER

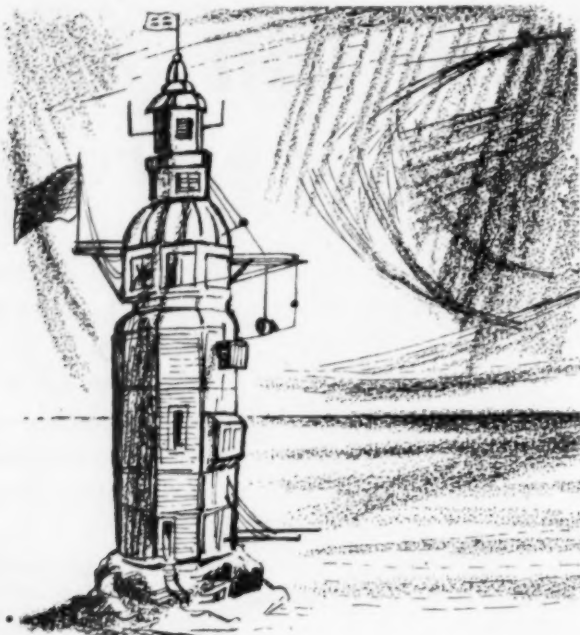
*provides perfect drying conditions
every washday!*

Telephones : Leamington 100 (Head Office) 3091 (Sales)
Telegrams : FLAVELS.

FLAVELS
of LEAMINGTON



Makers of fine cooking and heating appliances since 1777



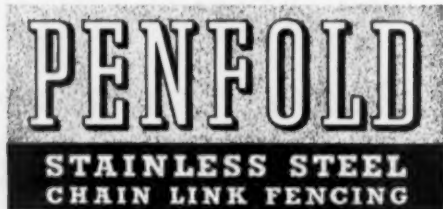
WINSTANLEY'S FOLLY...

DURING THE WINTER OF 1882, one man in Britain who had every reason to appear concerned was Sir James N. Douglass. Standing alone upon wave-swept rocks some 14 miles from Plymouth was the lighthouse he had but recently erected . . . the Eddystone. No doubt, when lying abed and hearing the wind blustering outside, thoughts of the first builder of the lighthouse came into his mind. This was Henry Winstanley, an eccentric who created a wooden structure, pagoda-like, covered with paintings and gilded inscriptions. Winstanley would brook no criticism of his "masterpiece" and stated that he wished he might be in the lighthouse during the worst storm that could be imagined.

In 1703 he got his wish. When morning came, after a night of furious tempest, Winstanley, the keepers and the tower had gone . . . the rock was completely bare!

Douglass, however, was a man of different calibre. He had learned from the past and, into his own building, put the experience of himself and others. Wisely, he chose his materials with the greatest care for he knew, too well, the destructive power of the elements. From the laying of the first stone until the light shone out over the dark waters, he radiated supreme confidence . . . and time has proved how justified this confidence really was.

In all projects where protection is essential against the atmosphere and the elements, the choice of suitable materials is all-important. That is why, all who are faced with the problem of damage from extreme corrosion in both industrial and coastal areas will welcome the new chain link fencing from PENFOLD. Manufactured from bright drawn STAINLESS STEEL wire it resists the onslaughts of atmospheric corrosion. May we send you full details?



PENFOLD FENCING & ENGINEERING LTD.

IMPERIAL WORKS · BALMORAL ROAD · WATFORD · HERTFORDSHIRE.
Telephone: Watford 2241 Telegrams: "Penfold, Watford"

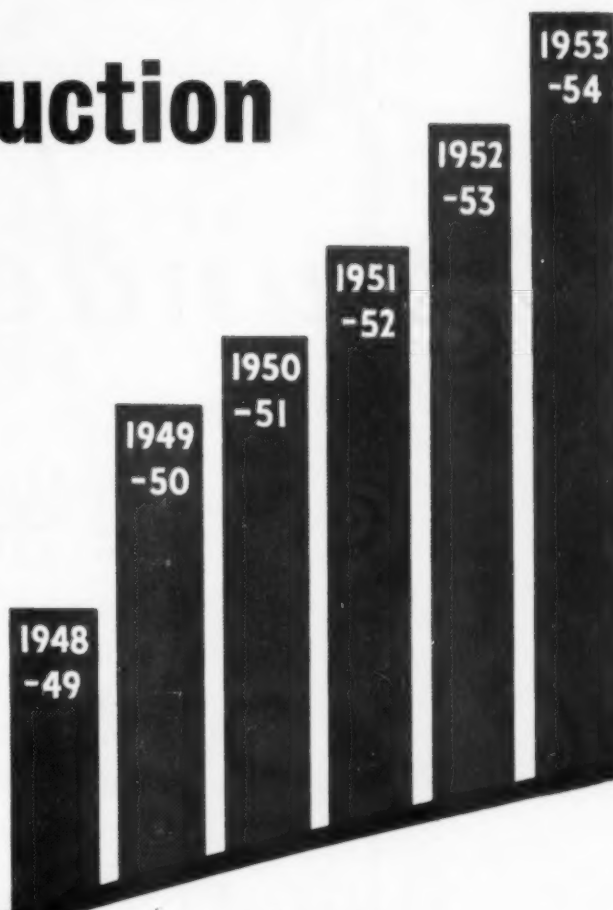


BRICK Production up again

Figures for the 12 months ending June show a further substantial rise in brick production. Output for the previous 12-month period was exceeded by 460 millions.

The accompanying diagram reflects the success of the industry's development programme.

New and extended works, new machinery and new methods are being employed to ensure an adequate supply of bricks for all building requirements.



*The Brick Industry
is 'Delivering the Goods!'*



Issued by

The National Federation of Clay Industries, London, W.C.1



Sundeala

The British Made

Building Boards of

Quality and

Experience

THEY ARE MADE TO LAST

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Works : SUNBURY-ON-THAMES

Glasgow : BALTIC CHAMBERS, 50 WELLINGTON ST, C.2

Newcastle : NORTHUMBRIA HOUSE, PORTLAND TERRACE, 2

When weight is a problem



Come to think of it, weight nearly always *is* a problem.

In almost every branch of industry—and particularly in transport—weight saved means greater all-round efficiency and economy.

That's where light, strong and durable 'Kynal' wrought aluminium alloys come in—enabling weight to be reduced without loss of strength. With the aid of the Technical Service and Development staff of I.C.I. Metals Division, engineers and designers are constantly finding new uses for 'Kynal' alloys.

May we help solve *your* weighty problems?

'KYNAL' AND 'KYNALCORE' wrought aluminium alloys are already extensively used in the following industries:

Aircraft: ribs, spars, engine components, stressed skin covering, fittings, etc.

Railways: structural members, roofing, panelling, windows, luggage racks, etc.

Road Transport: structural members, floor planks and panelling, windows, tread strips, doors, small fittings, etc.

Shipbuilding: bridges, wheelhouses, outer funnels, lifeboats and davits, decks, skylights, stanchions, bulkheads, watertight doors, etc.

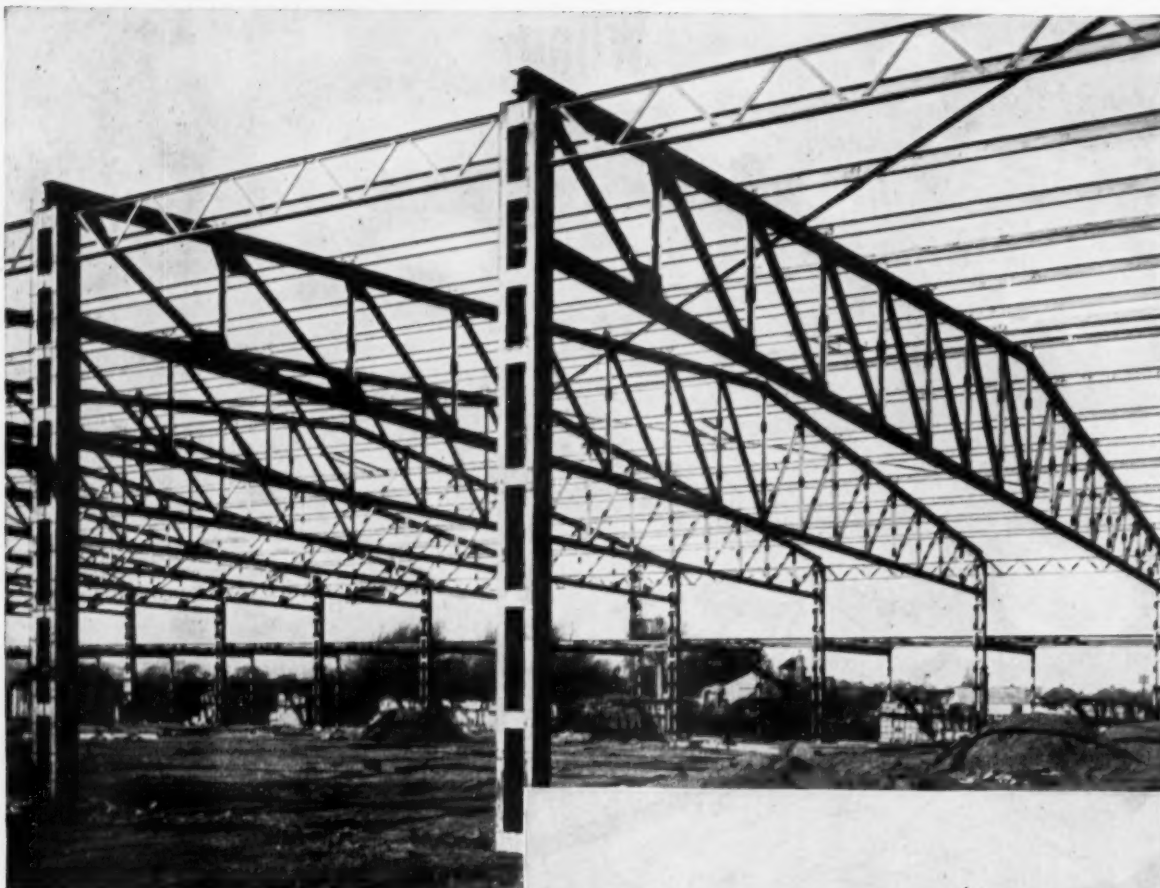
Building: roof coverings, side claddings, ventilators and windows, panelling, interior fittings, etc.

'KYNAL' AND 'KYNALCORE' WROUGHT ALUMINIUM ALLOYS

IMPERIAL CHEMICAL INDUSTRIES LIMITED, LONDON, S.W.1



44331



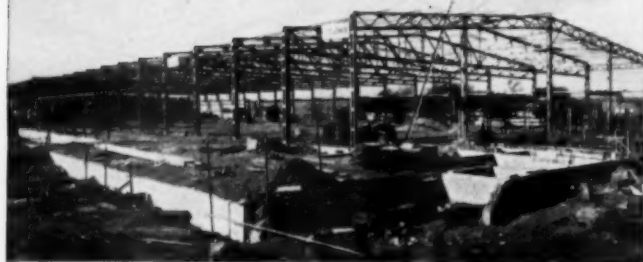
**S.P.D. DISTRIBUTION CENTRE,
PERRY BAR, near BIRMINGHAM.**

A.C.A.S. (INDUSTRIAL DEVELOPMENTS) LTD.
DEVELOPMENT.

Architects: LLEWELLYN SMITH & WATERS,
M/M.B.E., F/F.R.I.B.A.

Consulting Engineers: ANDREWS, KENT & STONE.

General Contractors: C.A.S. (CONTRACTORS) LTD.



Steelwork fabricated and erected

by

T.C. JONES

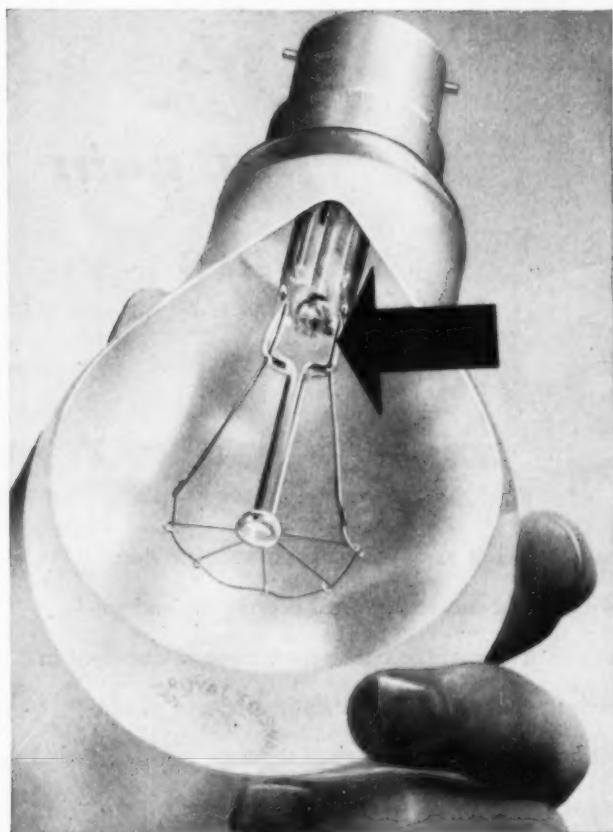
AND COMPANY LIMITED

LONDON AND

THE
600
GROUP
OF COMPANIES

SOUTH WALES

Nothing is left to chance...



COPPER CLAD

To secure a gas tight seal at the point where the lead wires pass through the glass envelope of Royal "Ediswan" Lamps a special wire known as Copper Clad is used. This seal must remain gas tight over the range of temperature from cold to the highest value which the lamp attains when alight.

Copper Clad, made by a very specialised technique, consists of two metals hermetically bonded in such proportions that they will expand and contract at the same rate as the glass. This property together with the specially prepared surface, ensures that a perfect metal-to-glass seal is made.

** This is but one example of the intricate operations in the manufacture of Royal "Ediswan" Lamps, calling for the highest degree of skill and the utmost care and precision. Nothing is left to chance—only the finest materials are used and there is strict control at each stage of manufacture.*



BY APPOINTMENT
SUPPLIERS OF ELECTRIC LAMPS
TO THE ROYAL NAVY, ROYAL AIR FORCE
THE EDISON SWAN
ELECTRIC CO. LTD.

ROYAL "EDISWAN" LAMPS

The Edison Swan Electric Co. Ltd., 155 Charing Cross Road, London, W.C.2

Member of the A.E.I. Group of Companies

Watching your interests . . .



**We
put your
clients
paint
wise!**

Here is a Blundell product which helps to off-set the high cost of labour and thereby brighten the general picture. PAMMASTIC plastic emulsion coating cuts costs because it . . . requires no primer or undercoat . . . is as quick and easy to apply as distemper . . . dries in under two hours—enabling the second coat to be applied without delay . . . takes only two coats to cover the most contrasting surfaces.

What's more; Pammaastic cuts labour maintenance costs too, for it lasts indefinitely.

For a brilliant enamel or soft eggshell enamel finish, the recommended complementaries to Pammaastic are Blundell's Pammel and Pammellette.

We've always stressed that there's more to reading an estimate than looking at the Sum Total at the bottom. Good workmanship and good paint cost good money—but, seen in the right perspective and employed in the right way, they actually *save* in the end. Painting the true picture for the man who ultimately pays the bill is one of the ways in which the Blundell organisation help themselves by helping *you*. A client pre-conditioned to paint wisdom, is a better client for you—and for Blundell Paints. It's a big educational job—and the whole Blundell advertising strategy has been designed to do it.

BLUNDELL PAINTS

BLUNDELL, SPENCE & CO. LTD · MAKERS OF PAINTS SINCE 1811 · 9 UPPER THAMES ST. · LONDON · E.C.4 & HULL
And at Bristol, Glasgow, Liverpool, Newcastle, West Bromwich, Bombay and Sydney. Associated Company at Valparaiso.

40 sq. feet of load-bearing finished wall erected in a single lift with the new **BELLROCK**



- 1 Floor to ceiling in one lift.
- 2 Up to 10' high x 2½" to 6" Thick panels.
- 3 No Rendering or face plastering.
- 4 Solid invisible Joints. No cover strips.
- 5 Free standing or wall load bearing.
- 6 Fireproof.
- 7 No shrinkage or plaster cracks due to elimination of wet process on site.
- 8 Immediately ready for any form of decoration. No chemical action to attack or fade wall paper, water paints, etc.
- 9 Saves up to 50% in Building completion times.
- 10 Economical in use.
- 11 Fixing plugs for door casings, etc. Conduit switch boxes can be incorporated during manufacture.

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ALTRINCHAM

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Tel.: Alt. 0712

LICENSED MANUFACTURERS

Our Representative will be pleased to call at your request with Test Reports and fuller information.

WE CAN ERECT IF DESIRED

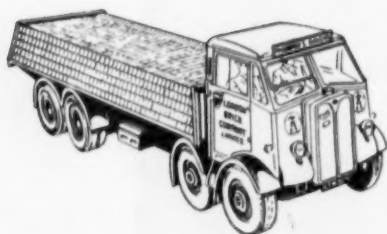
A load-bearing Pre-formed wall section of full room height with a perfect plaster finish to both wall faces as extensively used by Architects and local Authorities.





Wherever

you look...



All over the country you see increasing evidence of the efforts we are making to satisfy growing demands, with more kilns now producing more and more bricks and blocks, and with organised distribution by road, rail and water.



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BY APPOINTMENT
 BRICKMAKERS TO
 THE LATE
 KING GEORGE VI
 LB30



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Holland & Hannen and Cubitts Ltd.*

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one aim—supplying**

SOFTWOODS

Merediths specialize in softwoods: the range and variety of our stocks cover every need in any type of building scheme. We offer contractors the utmost co-operation. Whatever the nature of your building plans, when you are ready we are!



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Impressive?

FIRE ESCAPE STAIRS

Imperative!

This fire escape stair is typical of many manufactured by Lion Foundry.



LION FOUNDRY

CO. LIMITED

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The DYEING OF WOOD

An answer to the colour question

Even when floors and other interior woodwork are of the finest timber, there is — or should be — always a colour problem.

For very many years architects, builders and interior decorators have solved wood colour problems with COLRON Wood Dye. COLRON is penetrating, preservative, economical (*one coat only*) and achieves the highest degree of permanence.



A complete colour range

COLRON is made in 12 attractive shades which are easily intermixable to give a practically limitless variety of colour effects. Waxed with Ronuk Polish, dressed with Ronuk Floor Seal, Ronuk Plastic or other quality finishes COLRON provides the ideal treatment for *all* interior woodwork.



A hardwood finish for softwoods

COLRON is specially recommended for giving *soft timbers* a hardwood-like finish and to enhance the beauty of their grain. Even the softest woods will polish brilliantly after treatment with COLRON — which is non grain-raising and can be safely used on all short-grained timbers.

COLOUR GUIDE:

Available on request. On all questions of wood dyeing and polishing, Architects and Builders are invited to consult the Ronuk Service Department.

COLRON WOOD DYE

In all sizes from half-pint

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London Office and Showroom: 16, South Molton Street, London, W.1.
Telephone: MAYfair 0222



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PLASTIC (VINYL) FLOORING • RUBBER FLOORING

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OF YOUR SPECIFICATIONS

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'Mouldex' Hard Rubber Flooring (*American Type*)

'Mouldex' Rubber & Marble Terrazzo Flooring

'Durever' (Vinyl) Flooring 'Biltex' (Vinyl) Flooring

'Mouldex' Anti-Static (Vinyl) Flooring

'Mouldex' Rubber Stairnosings

Our first-class laying service is at your command. We will gladly supply samples and estimates on receipt of your enquiry.

British Mouldex Ltd

THE MANUFACTURERS AND CONTRACTORS

HYTHE ROAD WILLESDEN NW10 • LADBROKE 2454

FENCE POSTS

*For 6'0" Chain Link plus 3 lines
barbed wire on lean-over arms.*

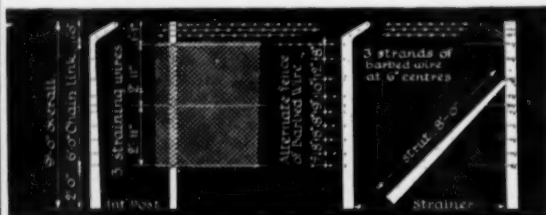
Holed for three straining wires and reinforced for spacing at 9'0" centres, with Intermediate Strainers at approximately 50 yard intervals.

Supplied only, supplied complete or fixed complete.

Deliveries from our nearest Works:— N. Staffs., S. Staffs., Lincolnshire, S. Wales, Bucks., or Sussex.

Description	Size	Weight
Intermediate Post ..	6in. by 3in. by 9ft. 0in.	168 lbs.
End Strainer ..	6in. by 6in. by 9ft. 0in.	338 lbs.
Angle Strainer (Ext.) ..	6in. by 6in. by 9ft. 0in.	338 lbs.
Angle Strainer (Int.) ..	6in. by 6in. by 9ft. 0in.	338 lbs.
Intermediate Strainer ..	6in. by 6in. by 9ft. 0in.	338 lbs.
Struts ..	6in. by 3in. by 8ft. 0in.	140 lbs.

Straight posts are available from stock for 3'0", 3'0", 4'0", 4'6", 5'0" and 6'0" mesh. Also posts for wire fencing, guard tubes and rails, close and open boards, panels, etc. Please write or 'phone for particulars and prices.



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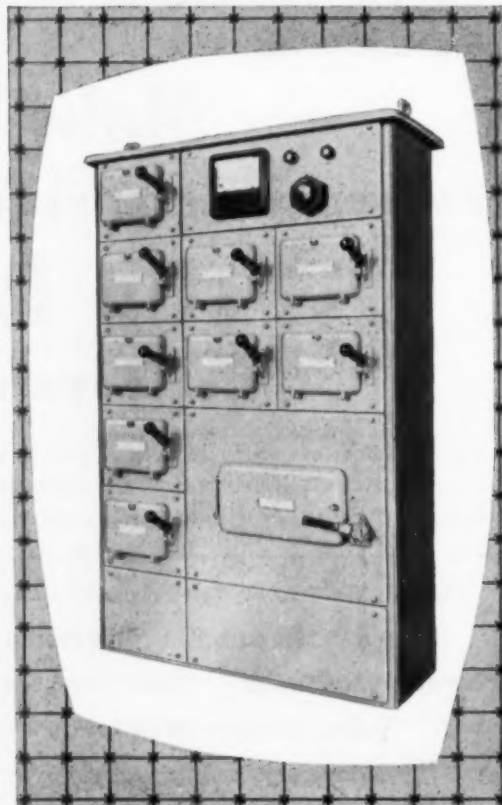
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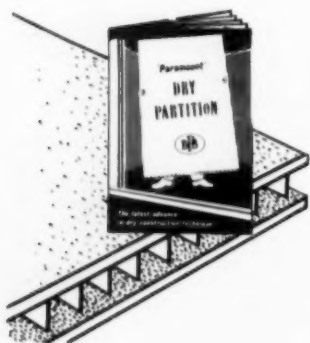
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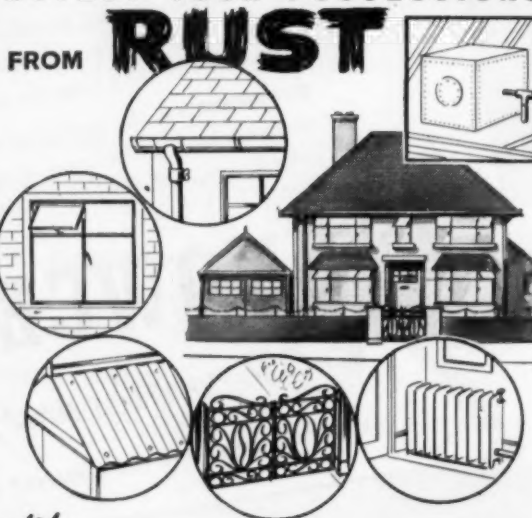
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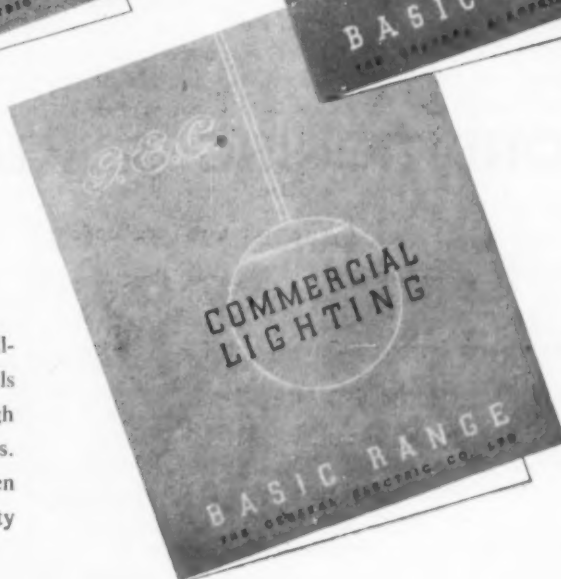
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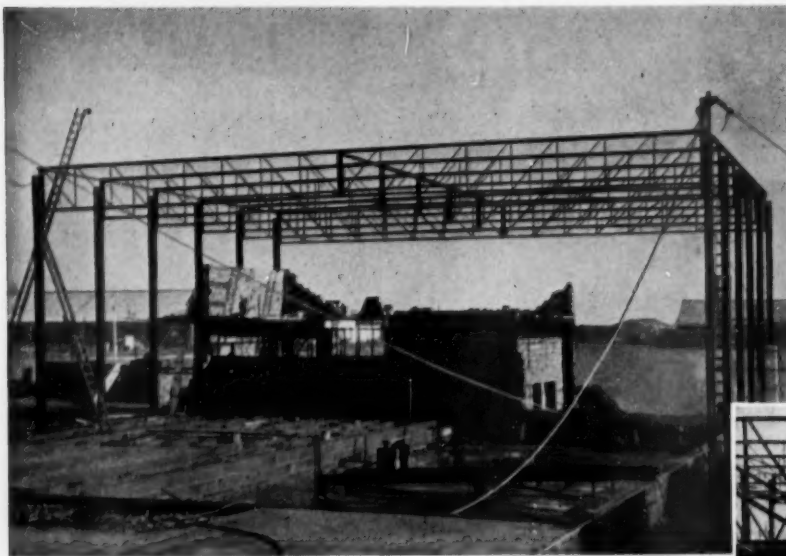
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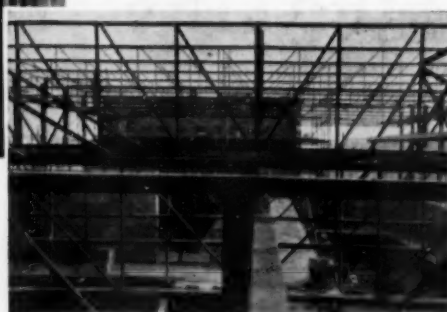
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THE ARCHITECT & BUILDING NEWS

9 September 1954

The "Architect and Building News" incorporates the "Architect," founded in 1869, and the "Building News," founded in 1854. The annual subscription, inland and overseas, is £2 15s. 0d. post paid: U.S.A. and Canada \$9.00

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LEAP FROG

IN the September letter of the Director of the L.M.B.A. to members of his association, Mr. G. H. A. Hughes writes about the new fletton brick which has appeared on the market in the London area in recent months, and which has a larger frog intended to be laid downwards.

Members of the L.M.B.A. had complained that they had been given no warning and that costs had increased due to the new requirement for the frog to be laid downwards which was contrary to usual practice, and that difficulties with operatives had arisen on some jobs where use of the new brick had involved bonusing adjustments.

From Mr. Hughes' note it appears that there were several reasons why the London Brick Company did not consult the master builders before delivering the new bricks, among them that the B.R.S. considered that the standard brick was unnecessarily strong and that its weight could be reduced with advantage (there is in normal use a factor of safety of six). The company had introduced a cellular brick some fifteen years ago which had been tested and approved but for technical reasons had never been marketed. Further investigation by the company had led to the design of the new brick with an enlarged frog (50 per cent more space volume than the vee-frog brick).

The company decided that they could not consult everybody before marketing without holding up production and decided to go ahead.

(If the master builders were not consulted beforehand we cannot grasp how delivery of the new brick complied with orders which presumably would have been for ordinary flettons.)

The London Brick Company have given figures regarding the strength of the brick and claim that when laid frog down all is well. It is claimed that the new brick will be cheaper to lay owing to the saving of mortar; that it has better thermal qualities and

that the larger air gap is an additional barrier against moisture penetration.

In cases where exceptional strength is required it is advised that the brick should be laid frog upwards (which of course would require more mortar than normal flettons).

Mr. Hughes advises L.M.B.A. that the new brick has come to stay. "Immediate steps are therefore to be taken to publicize the new brick and the facts in connection with it in order to encourage its use and to dispel any doubts about its efficiency."

The L.M.B.A. have discussed the bricks with their technical adviser at M.O.W., Mr. Dean, who has suggested that it would be useful if L.M.B.A. members let him know of work which had been up for some years where the frog had been laid downwards.

We are indebted to Mr. Hughes for permission to take so much from his note, but since he says that the Ministries have been clearly told that unless the use of the brick becomes general practice the cost of building will be increased and that they (the Ministries) will bring them to the notice of all local authorities, the matter is of great importance, although this appears to us to be rather a sweeping statement.

We understand that the Building Research Station is preparing a Digest on the new bricks and when this appears architects will doubtless find in it the information they require. If the advantages of saving money on raw materials, transport and quantity of mortar required are to be fully exploited, factors which might require extra supervision should be fully considered. Until the B.R.S. Digest is before us, it is not easy to tell whether the placing of wall-ties, for instance, will need more care and supervision.

However, it all shows that even such familiar objects as bricks are capable of surprising developments.

EVENTS AND COMMENTS

BRIEF ENCOUNTER

The event of the past week was the arrival of summer on the last day of August and the effect after weeks of wet and gloom was startling. In London the visibility was exceptionally good and buildings that throughout the summer had loomed over the streets like waterlogged elephants came back to life and reminded us that however we design in whatever materials, it is the light in which they are seen that matters.

With the clear visibility one could see from Waterloo Bridge how precarious is this fine view of St. Paul's and the City churches (what is left of them). Post-war building in the Blackfriars area already looms up, and recalls the Faraday House blunder. It is from this direction, rather than from Bankside, that the prospect should be safeguarded.

The Victoria Tower, Westminster, is now restored to Londoners after its long period in a cocoon of scaffolding. This is the weather in which we would have foreigners see London, when the Victorian Gothic warehouses are as fine to see as the new Pimlico Housing, and the Royal Parks remain refreshingly green after the wet summer. A postcard from Abner arrived to mock me at my desk while he basks in the sun, bemused by wine, one eye on the femmes. What does the small print on the P.C. say? *Côte d'Azur, tes parfums nous enivrent et chacun de tes charmes comme les bras d'une pieuvre, enlace à jamais notre cœur.* Well, we had two hot days in London.

R.C.A. IN REGENT STREET

The current exhibition at Liberty's of work from the schools of industrial design of the Royal College of Art includes furniture, fabrics, ceramics, glass, silver and

costume jewellery, all very well made as far as I could judge, and much of it sensitively designed with a lot of fine detail.

There were one or two three-legged chairs which are all right for animals to sleep on but I don't trust them myself.

I noticed a candlestick that at first glance appeared to have escaped from a pawnshop, but on closer inspection there was more to it. There were some handsome cut-glass doorknobs, and any minute now I expect to see neo-Victorian porcelain knobs back in fashion.

DIANA IN GREEN PARK

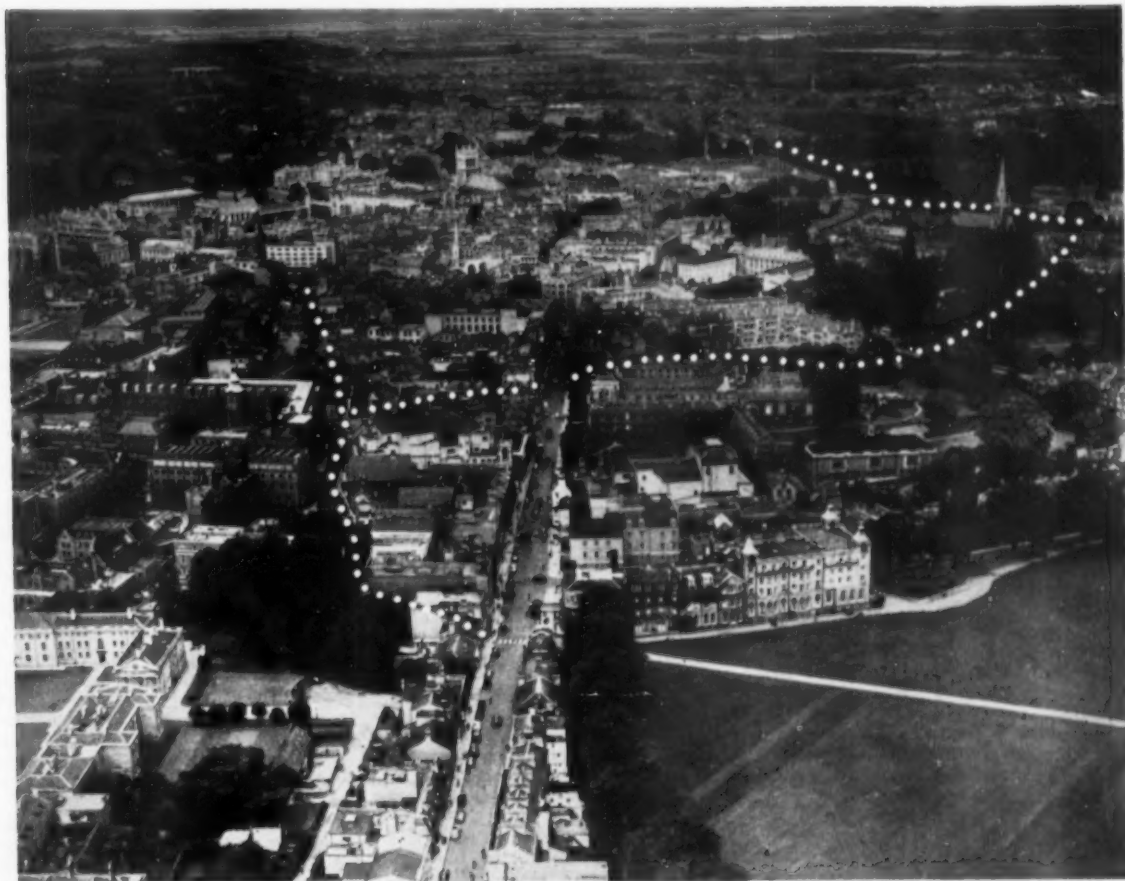
I was not surprised to hear the "Critics" express lack of enthusiasm for the new fountain in Green Park. It is well sited, with a good background of trees, but it has neither the wit of the cane figures in the Festival Gardens, nor the invention of Mr. Huw's riverside fountain; in fact, it falls literally between three pools, for the Diana which surmounts the fountain—a kind of tripot—is out of scale with it and looks lost outside the Sculpture Gallery of the R.A. where it belongs. However, it is something new, and hitherto the Green Park has been overlooked when statues and fountains were being handed out.

FOR THE BOOKSHELF

As one gets older one needs to bolster up the fading memory of knowledge learnt at the schools on the historic styles. I feel more assured now that I have a copy of Mr. A. L. Osborne's *Dictionary of English Domestic Architecture* (Country Life, 21s). It is very fully illustrated in line by the author, whose exquisite draughtsmanship is equal to every type of subject. The notes, too,



"The invisible worm doth thy life destroy". Top picture: Mr. Stephen Dykes Bower, F.R.I.B.A., Surveyor of the Fabric, points to damage by the deathwatch beetle in one of the beams of the Jerusalem Chamber, Westminster Abbey. On the right, Mr. H. Newman, Works Foreman, shows how serious is the damage to one of the beams of the nave roof. Repairs will cost it is now thought considerably more than the £1m raised by the Abbey Appeal Fund.



The proposals for the future development of Cambridge include a spine relief road indicated by white dots in the aerial photo. Christ's Piece is on the left shown bisected by the proposed road. A critical note on the plan by Derek Plumstead, A.R.I.B.A., A.M.T.P.I. appeared in A. & B.N. 19 August.

will be invaluable to laymen and professionals alike. I should like to see added in future editions, in parenthesis, how one or two words are pronounced. Is it fashionable to say gazebo or gaze-bo? Cinquefoil is sinkfoil, but cottage ornée is cottarj ornay. How do you say *enceinte*? (a curtain wall forming an enclosure). I suppose one can avoid having to say it anyway.

I hope Mr. Osborne and Country Life have plans for a sequel to this book containing contemporary terms. It would prove useful to the critic, who might then take in architecture with the other arts if he could speak the lingo with confidence.

NEW WINE IN OLD BOTTLES

I had my first opportunity last week of seeing the Robert Paine's new shop for David Greig in George Street, Canterbury. I thought it was brilliant. The surfaces are in gay strong colour, there is excellent natural lighting and most intelligent shopping arrangements. If we can only have enough of this kind of design in the reconstructed areas, there is nothing to fear.

The other object of my pilgrimage was to see the new window in the Cathedral. Its effect was to make me feel strongly that Cathedrals should be left alone. Additions, however worthy and skilfully done, to my eye always strike

a false note and distract from what one wants to see. I know the argument that it is all in the tradition, and I know that public opinion would not tolerate any attempt to depict our Royal Family in a naive or formal manner, and I also understand that Cathedrals are not merely museums. I turn a deaf ear to reason, and with the greatest respect in the world to the Archbishop, Sir Ninian Comper and the Freemasons of Kent, I wish they had spent the money on maintenance. I was particularly struck with the bold geometric patterns of the empty iron tracery in the boarded-up early windows whose glass has not yet been replaced; they, I think, are magnificent.

LECA BLOCKS

I hear that the Cement Marketing Co. is considering discontinuing manufacture of this material when outstanding orders have been satisfied, owing to the uneconomically high cost of production.

TAILPIECE

The London Coliseum has been cleaned, and now looks pinkly nude. When smoke abatement becomes effective and the whole city has a wash and brush up, there will probably be a demand for some of the more exuberant survivals to be sprayed with plastic soot to restore the *status quo ante*.

A. N. OTHER

NEWS OF THE WEEK

R.I.B.A. Committee set up to consider Type Plans

The R.I.B.A. Council have approved in principle a recommendation of the Public Relations Committee that the Royal Institute should initiate a scheme whereby designs for small houses can be purchased at a reduced fee.

An *ad hoc* committee consisting of representatives of the Practice Committee, Public Relations Committee and Town and Country Planning and Housing Committee, has been set up to consider ways and means of implementing and administering the scheme and to report back to the Council.

Five-Year Slum Clearance Plans

Local authorities in England and Wales have been asked by Mr. Harold Macmillan, Minister of Housing and Local Government, to send their slum clearance proposals to him by August 30 next year for his approval. In a circular Mr. Macmillan says that in examining proposals he "Will require to be satisfied that these provide for the solution of the slum problem as quickly as the Council's commitments and resources, and the supplies of building labour and materials, permit."

Local authorities are asked to give the Minister

- (1) an estimate of how many unfit houses there are in their areas;
- (2) an estimate of how long it will take them to demolish these houses;
- (3) a programme of action for the next five years.

"The immediate need is for a global picture and a plan of action," says Mr. Macmillan. "In those areas where the slum problem cannot be solved in five years the plan of action will naturally relate to those parts of the Council's area in which slum conditions are worst and action most urgent."

Councils, he says, should not make proposals for postponing the demolition of any of these slum houses and for patching them meanwhile, unless their total slum problem is so large that clearance and replacement must take more than five years.

As well as giving detailed information and guidance on the provisions for the treatment of unfit houses, the circular on the new Housing Repairs and Rents Act, 1954, which comes into operation on August 30, deals with amendments made to the conditions attached to making grants for improving houses and for their conversion into flats.

Among other things, the new Act removes the upper limit—previously £800—of the cost of improvements and conversions eligible for grant; enables local authorities to pay grants for the improvement or conversion of houses which will afterwards last more than 15

years in place of the previous minimum of 30 years; and amends the provisions for the fixing of rent so as to enable a Council to settle a figure which represents the value of the dwelling under the conditions of to-day, and does justice to both owner and tenant.

"These amendments," says the Minister, "are designed to promote the modernization of privately owned structurally sound existing houses, many of which will, unless provided with modern amenities, rapidly deteriorate into slums and put heavier burdens on public funds."

The Minister again urges councils to do everything they can to encourage private owners to apply for these grants. In particular, he hopes that they will authorize their officers to tell applicants whether a grant is likely to be made, and, if it is, what rent the council are likely to fix, on receipt of outline proposals and before applicants are put to the expense of providing detailed plans and specifications.

Illuminated Signs Appeal

Do large illuminated advertisement signs detract from the architectural amenities of the centre of Birmingham, or is this area properly regarded as "the Piccadilly of Birmingham," where the public expects to see such bright lights?

This was the principle at issue at a Town Planning enquiry at the Birmingham Council House on Wednesday, August 25 into an appeal by London Signs and Illuminations, Ltd., against a refusal by the Public Works Committee, acting as the local Planning Authority, to allow the erection of a neon wine advertisement outside the second- and top-floor windows of premises at the corner of New Street and Corporation Street, tenanted by Messrs. Greaves, Ltd. It was stated that a sign had been a feature of this corner site for 25 years. The appeal was to the Minister of Housing and Local Government, and it was heard by one of the Ministry's inspectors (Mr. K. A. Braden).

Mr. F. S. Bridges, for the local Planning Authority, argued that the proposed sign would overload the building with advertising matter, would detract from its architectural appearance to the detriment of the amenities of the locality, and might distract the attention of pedestrians and drivers of vehicles and so be a source of danger at a busy junction.

He added that most of the buildings making up the frontages of the shopping streets in the city centre had a dignified and pleasing appearance and, acting in the discharge of their functions under the advertising regulations (of the Town and Country Planning Act of 1947), the Public Works Committee endeavoured to maintain and preserve the architectural character of these buildings.

"The Committee considered that generally such buildings should not be used for the display of large illuminated signs, particularly above the fascia level," he said. "They feel that unless this policy is adhered to a general deterioration in the amenities of the city centre will result."

When Mr. A. M. Lyons, Q.C., for the appellants, pointed out that there had been a sign in the position for a quarter of a century, that as recently as 1950 a sign advertising an electrical concern, nearly of the same size, but containing three times more footage of neon tubing, had been licensed for three years, that the sign was too high to catch the eyes of drivers of vehicles and that the circumstances had not changed since, Mr. Bridges retorted:

"The local Planning Authority does not accept the contention that because they granted permission for a sign in this position in 1950 they are obliged in 1954 to grant this application."

"Views change with the passing of time, and what was objectionable in 1950 is not necessarily unobjectionable to-day. Indeed the advertising regulations of the Act recognize that views in connection with advertising control may change, since they provide that consents are valid for a period of three years, after which period they come up for review."

"So far as this particular sign is concerned, the Committee consider it will affect adversely the architectural appearance of the city, and is likely to be a source of danger at a very busy road junction. They feel that, in the interests of amenities and public safety, the sign should not be allowed to be displayed."

Mr. Lyons complained that when the Corporation purchased the property concerned and the Estates Department negotiated a rent of £2,000 a year with Messrs. Greaves, Ltd., in December, 1952, they recognized and continued the then existing advertisement lettings. He said he was astonished, bearing in mind the high bona fides of a local authority such as Birmingham, that it was necessary for this appeal to be made.

Mr. Bridges explained that the negotiation of rents was not a matter for the Public Works Committee and when dealing with this matter they did not have the matter of rent in mind.

Mr. P. Goode, chief assistant in the Town Planning Department, who was called as a witness by the Corporation, agreed that when the Public Works Committee considered the matter they were unaware of the conditions of the lease.

Mr. Lyons commented that when the situation was discovered he thought it would have been magnanimous of the Corporation to have withdrawn objection to the advertisement.

Mr. Braden then closed the enquiry and inspected the site.

CORRESPONDENCE

"Slur on Canada"

To the Editor of A. & B.N.

Sir,—“Well written, Sir,” writes Abner after quoting an article from the Canadian publication *Expositor*, commenting on a recent advertisement in the *London Times* for Architects and Engineers with T.P.I. qualification at \$3,600–\$3,800 p.a.

It all sounded very impressive put like that, and indicating Canadian bricklayers would be better off.

But what about a straight comparison with the English scene? On a New Town building site with which I am familiar I am well aware that craftsmen's weekly pay packets are of the order of £15 per week and up to £21 in quite a number of cases. This means, say, £700 to £1,100 p.a. Now try comparing these earnings with current advertisements for Architects and Planners in the *Technical Press*, and I think you will find most of the posts offered by Local Authorities in England are below these levels.

How is it no infuriated Architects and Planners write to you about an implied “Slur on England”?

I am, etc.,

R. C. EDLESTON,
A.R.I.B.A., A.M.T.P.I.

Assistant Chief Architect,
Stevenage Development Corporation.

To the Editor of A. & B.N.

Sir,—“Abner's” comments (26.8.54) on the Canadian Crown Corporation's offer to a Town Planner of a salary \$19 a week less than that of a plumber working 40 hours could apply equally well to conditions at home.

A contractor recently told me that his bricklayers averaged over £20 weekly, and from another source one hears of this sum being increased by half from time to time.

It would be interesting to hear how many Architects in Britain are offered this sort of reward for their work, be it public or private.

I am, etc.,

CECIL F. WRIGHT.

The Private Architect—Fees and Profits To-day

To the Editor of A & B.N.

Sir,—Our Fees “gross” bear little relation to “net” profit: it seems this question might therefore be ventilated a little, in this age of the Welfare State. Private architects' office expenses are high, sometimes as high as half the “gross” fees received. Income Tax then takes perhaps as much as 25 per cent which is a large slice from the sum left after all “expenses” are paid out, for office rent and rates, staff wages, lighting, heating, etc., etc.

It can be seen from this, that unless a continuity of work is available, including some paying work, such as large-scale building work, the low profit

from a lean period makes things “difficult” for the average private practitioner to-day.

Under the present conditions, many of the potential clients of the private architect are unwilling (or unable) to embark on building schemes owing to “high costs,” the possibility of being faced with a large bill of extras for “increased costs,” and finally with high taxation, when and if, their enterprise, is rewarded. The private architect must therefore look to the Government, the nationalized industries and the Local Authorities, etc., for a very much larger proportion of their work than he now receives.

Unless the Government realizes this fact soon, the smaller private firm will eventually die out—as Local Authorities, the Ministry of Works, speculative Builders (and their plan makers—in employment already, very often) and large commercial firms employing their own “staff architects” will be the sole survivors and only “salaried” architects will be able to pay Income Tax at all, in the very near future it seems!

I am, etc.,

A. NEVILLE HOLT

“Unsatisfied Client”

To the Editor of A. & B.N.

Sir,—Your correspondent “Unsatisfied Client” deserves a helpful answer from the profession. I will not attempt to plan a house for an unknown site and little known requirements but one may take as a basis for argument the plan illustrated in “Houses 1953,” H.M. Stationery Office, 3s, page 7 figure 6. This plan shows living-room and dining-kitchen (no separate scullery), two bedrooms, combined bathroom and usual store, etc., gross house area is 770 sq ft, which at £2 per sq ft means £1,540; for architect's fees one should allow £125; there remains the cost of land, legal charges and probably fencing. It would seem possible to find a solution for £2,000 or a little over; if the ground were leasehold this would, of course, be helpful.

No architect would get fat from such commissions but most should be able to run them in with fatter jobs. I suggest that your correspondent should (a) write the Secretary, R.I.B.A., 66, Portland Place, London, W.1, asking for the name and address of the relevant local allied society. (b) Ask the President of the allied society for the names of two or three architects and then himself approach one of these.

I am, etc.,

ANO. NIMUS,
F.R.I.B.A.

CORRECTION

In our issue of August 26 the letter in correspondence from Henry Hope & Sons, Ltd., should have read Michael Hope and not Wilfred Hope.

Housing Progress, July

The number of permanent houses completed in Great Britain during July was 30,159 compared with 27,206 in 1953.

News in Brief

The Minister of Housing and Local Government has refused East Suffolk County Council permission to build a college of further education at Denmark Road, Lowestoft, on the grounds that it would seriously disturb a residential area. The project would have served North Suffolk, and the first block, an engineering workshop to cost £75,000, was to have been started in a few weeks. Local residents who appeared at the inquiry held in Lowestoft opposed the compulsory purchase of their houses.

The Ministry of Works is to allow the rebuilding of Mount Edgcombe House which was seriously damaged in the war. Work can begin next year and continue at an expenditure of £30,000 p.a. up to a total of £100,000, allowed by the Ministry.

The Borough Architect of Southport, Mr. W. L. Lowry, A.R.I.B.A., A.M.T.P.I., has been instructed by the Corporation Parks Committee to prepare detailed plans for a crematorium for submission to the M.O.H. & L.G. Provision is to be made for offices, a chapel, a three-oven furnace room and a garden of remembrance.

According to *India News*, a National Housing Bill to provide speedy housing accommodation for lower-income groups is likely to be introduced in the next session of the Delhi Assembly.

Lady Dane Cannery

In the article on the Lady Dane Cannery at Faversham, which appeared in the issue of August 12, the names of the Quantity Surveyors, Messrs. Willis & Thompson, and the General Contractors, Messrs. John E. Wiltshires & Co., Ltd., were omitted.

COMING EVENTS

The Ecclesiological Society

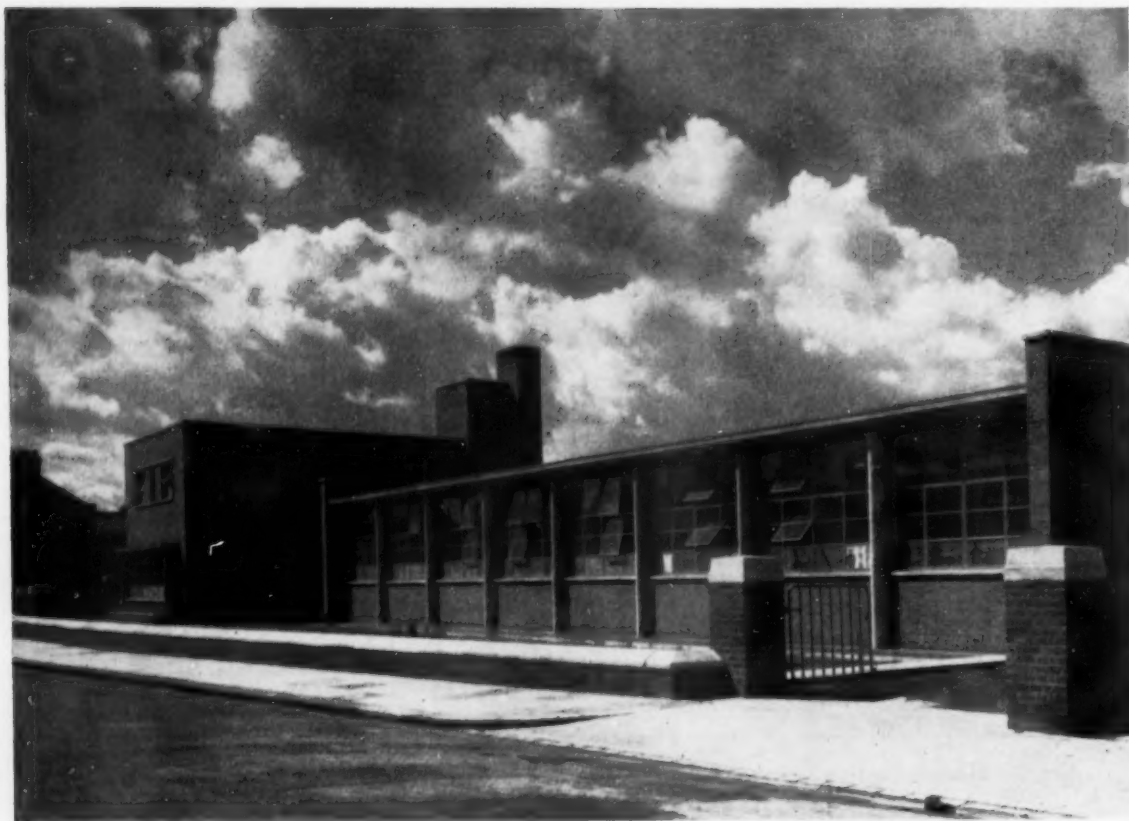
11 Sept. at 3 p.m. Visit to St. Alphege Church, Greenwich. (Hawkesmoor, recently repaired after war damage by Prof. A. E. Richardson, R.A.) and St. Mary Star of the Sea, Greenwich (Designed by W. W. Wardle, 1856).

The Modular Society

14 Sept. at 3 p.m. Visit to Worthing Secondary Technical School. Particulars, The Modular Society, 22, Buckingham Street, W.C.2.

The Building Centre

15 Sept. at 12.45 p.m. Lunchtime Film Show. “Joints in Concrete Structures,” “Joints that Move,” Expandite, Ltd. At 26, Store Street, W.C.1.

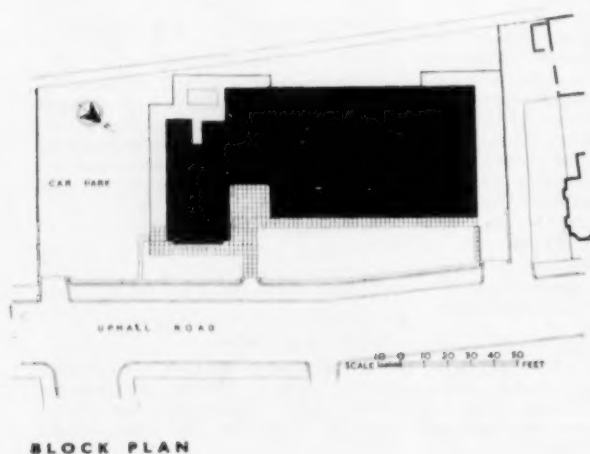


Front elevation, from the North

ORGANIC RESEARCH LABORATORY, ILFORD
for Messrs. Ilford, Ltd.

C. W. SULLY, A.R.I.B.A., A.A.Dip., Chief Staff Architect

E. H. WILLISON, L.R.I.B.A., Assistant Architect in charge

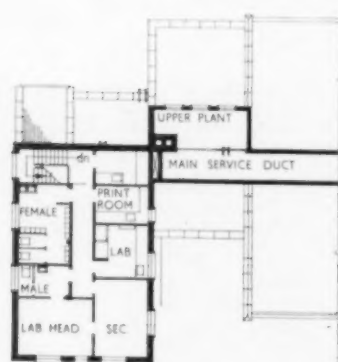


RENWICK Laboratory, named after the first research director of Ilford, Ltd., houses staff engaged upon Organic Chemical Research in connection with the manufacture and use of photographic sensitized materials. It consists of a single-storey laboratory wing with a two-storey administrative section at one end.

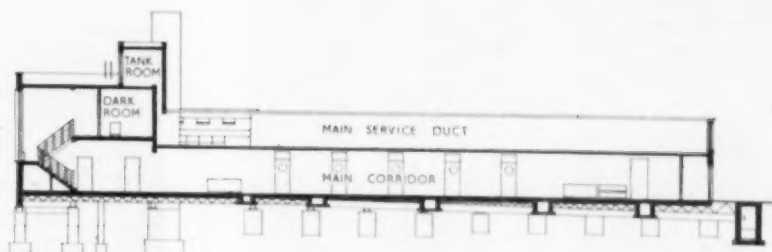
Planning

The plan is arranged as individual laboratories, grouped either side of a main corridor leading from the entrance hall. Connected to the Plant Room, which houses the boilers, pumps, etc., and running over the main corridor, is a duct which accommodates the many gas, electric, compressed air, steam, low pressure, high pressure, and hot water services supplying the laboratories. Expansion joints are arranged in the brick walls of this duct, to offset thermal movement which may take place in a long, uninterrupted run of brick walling.

Each laboratory is a complete unit in itself, with

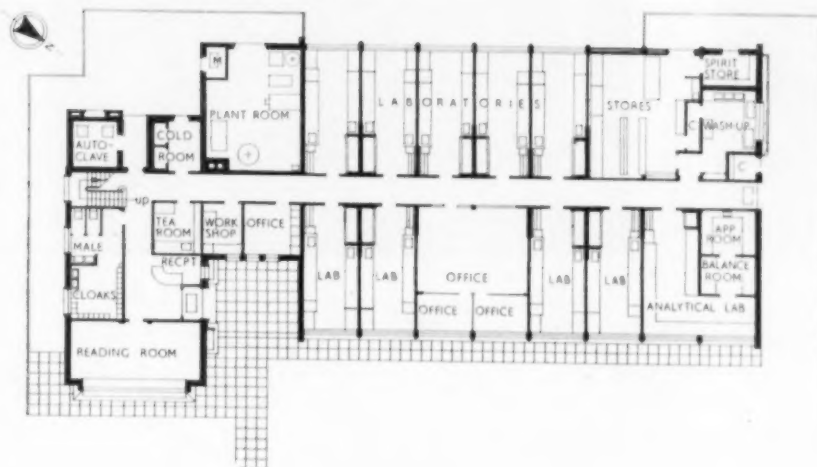


FIRST FLOOR PLAN



LONGITUDINAL SECTION THROUGH THE CENTRE

Scale: 1 in = 32 ft



GROUND FLOOR PLAN

benches and fume cupboard. The fume cupboards are separately ventilated, each having its own fan and extract ducting discharging through the roof. A Wash-up Room is provided nearby to deal with the specialized cleaning of the varied glassware equipment used, and a large drying cupboard is interposed between this and the Chemical Store where the clean, dry glassware finally arrives.

The Administrative Section contains, on the ground floor, Reception and Library, and on the first floor the Chief Chemist's suite, consisting of Office and Secretary, and Personal Laboratory and Darkroom. Sanitary and locker accommodation for both sexes is also arranged in this section.

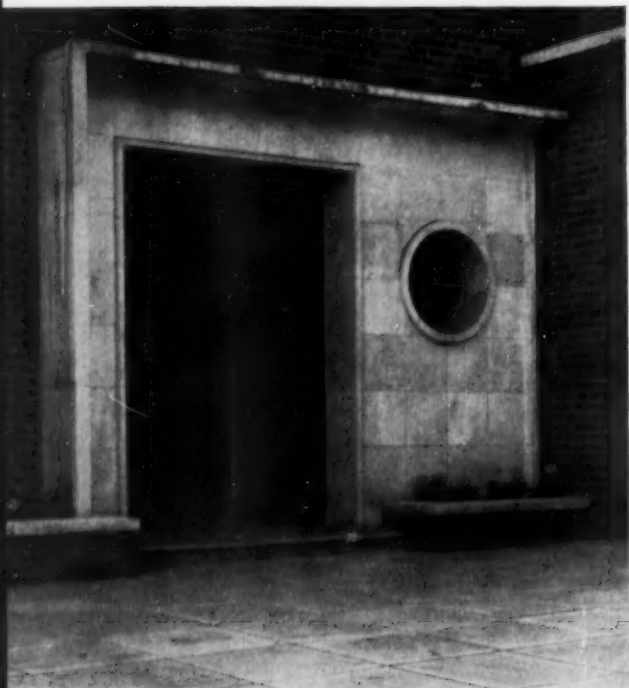
Construction

The site, in parts to various depths, is made up and the building load has been transferred by means of

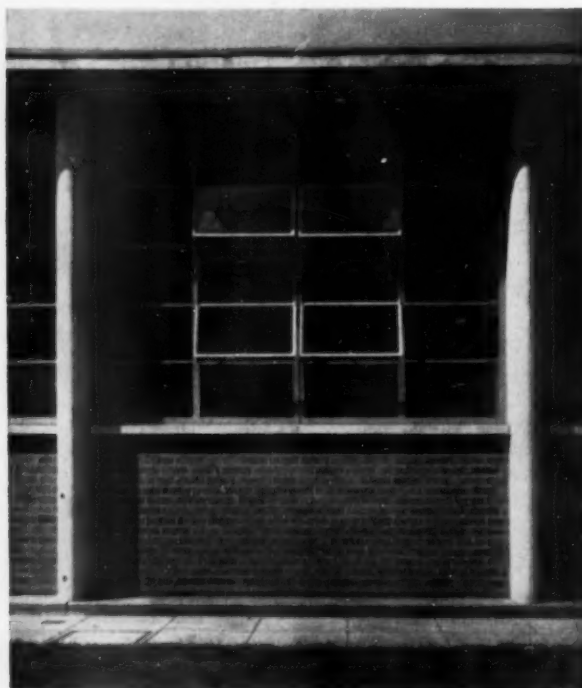
ground beams to reinforced concrete isolated bases, on which the steel framed superstructure is also carried. Suspended floors and roofs are of precast reinforced concrete; ground floor of *in situ* reinforced concrete. The building is clad externally with 13in solid and 11in cavity walls brickwork; the bricks are grey-brown multi hand-made sand faced from Berkhamsted, together with a plinth of Staffordshire Multi Brindled Wirecut Facings. Artificial stone surrounds to main entrance and windows are provided. All roofs are insulated with 2in thickness of cork finished with asphalt.

All walls and ceilings are plastered and painted, having a stippled finish to offices, entrance hall and corridors, and high gloss finish to all laboratories. Joinery generally is softwood, with the exception of the main entrance doors and internal doors to the entrance hall, together with the reception counter, which are polished teak. Skirtings throughout are 2in coves in polished African mahogany;

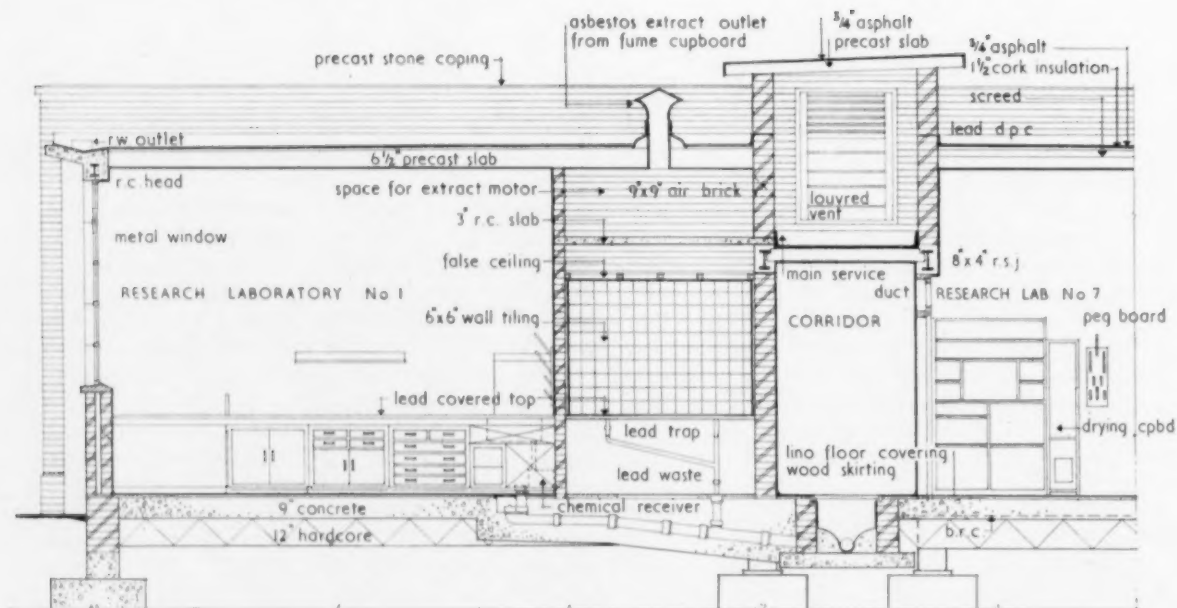
[continued on page 297]

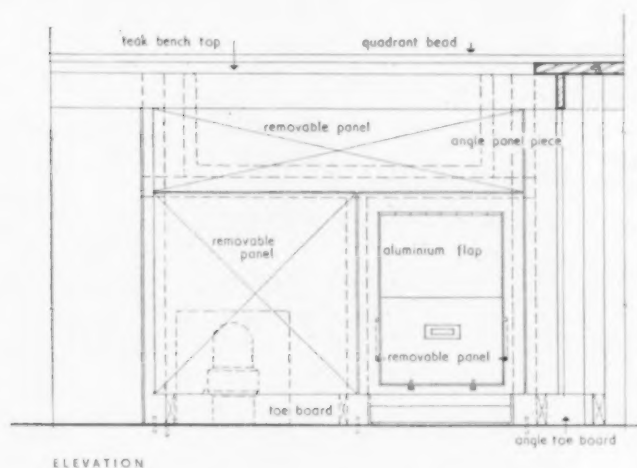
Organic Research Laboratory, Ilford

Main entrance

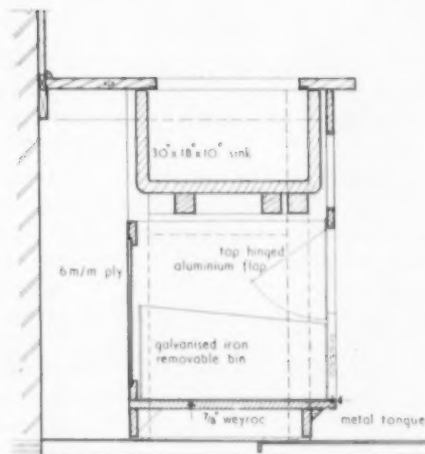


Bay detail

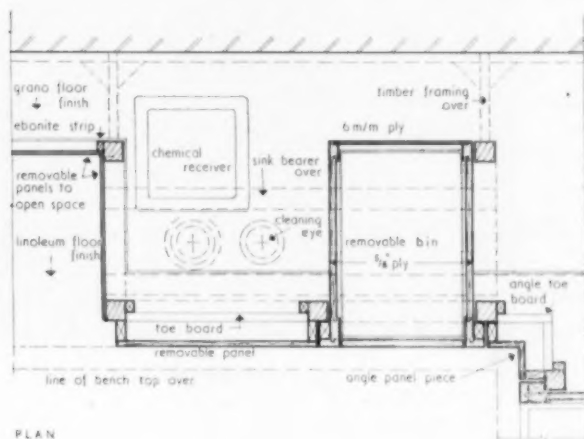
CROSS SECTION, STRUCTURAL DETAIL. Scale: 1 in = 8 ft.



ELEVATION



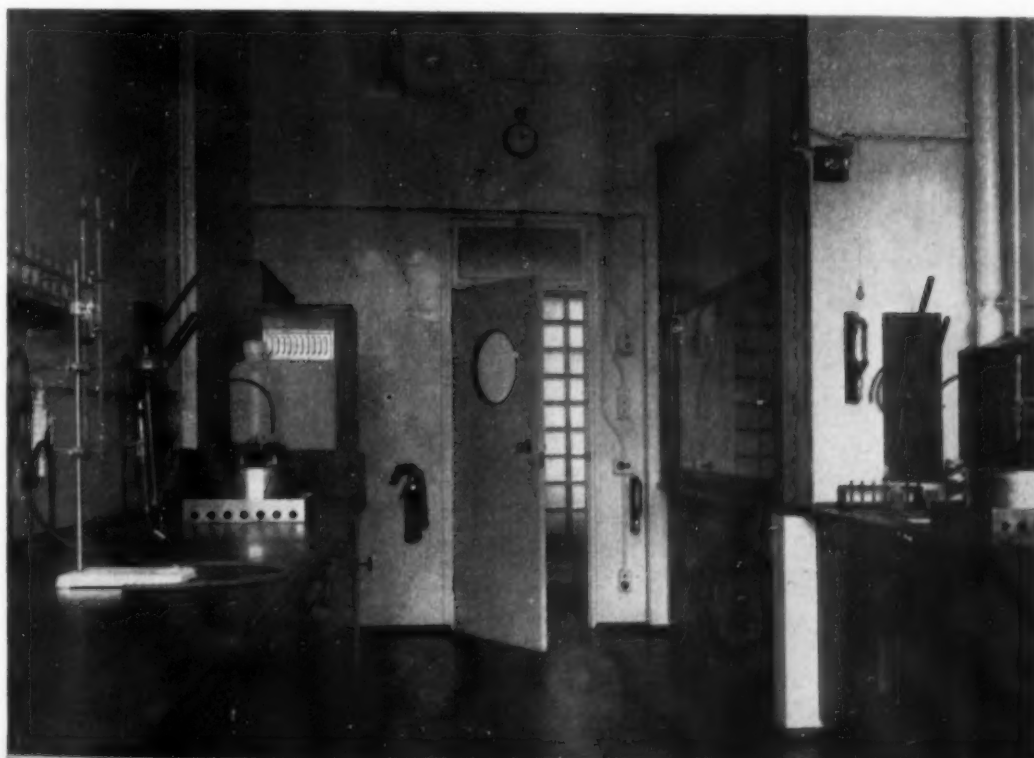
SECTION

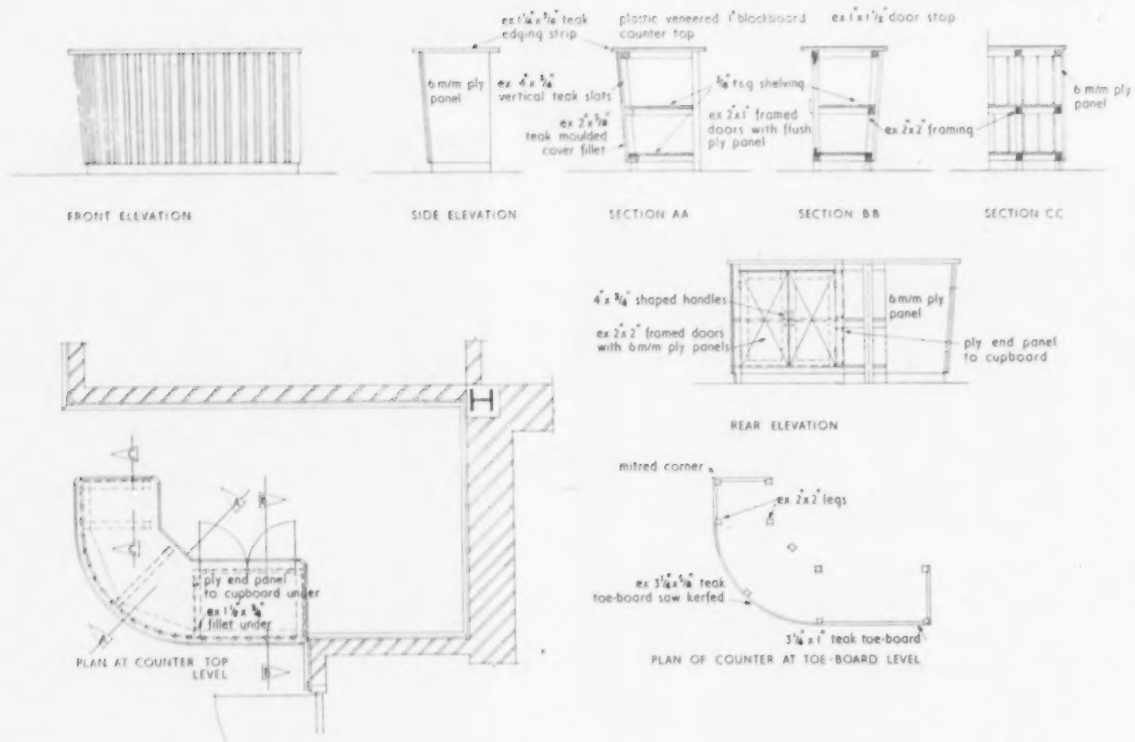


PLAN

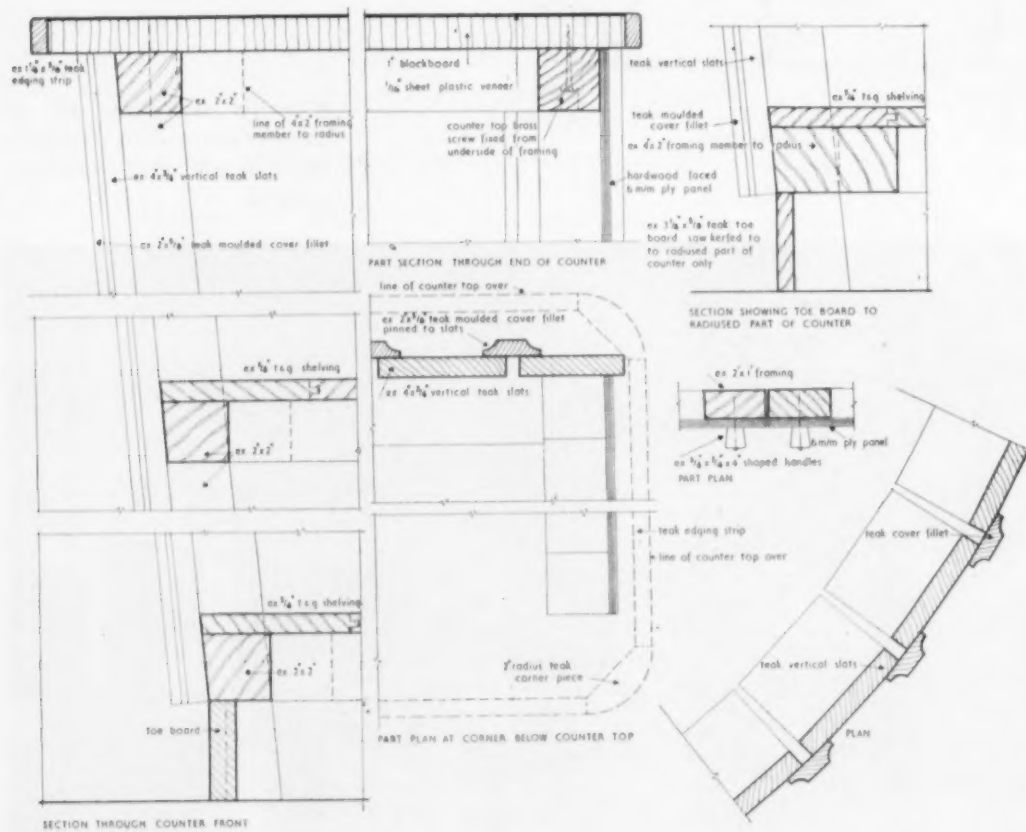
TYPICAL BENCH DETAIL.
Scale: 1in = 16in. JUST SUCH A SINK WITH A REFUSE BIN UNDERNEATH CAN BE SEEN IN THE BOTTOM RIGHT HAND CORNER OF THE PICTURE BELOW.

A typical laboratory. All the furniture was specially designed by the architects after considerable research.





Organic Research Laboratory, Ilford RECEPTION DESK DETAILS





The reception desk in the entrance hall

the book-cases in the Library are of the same material and finish. Floor finishes vary according to requirements: thermoplastic tiles for corridors; linoleum for laboratories; acid-resisting asphalt for stores and wash-up room; terrazzo for staircase and lavatories, and granolithic to the plant room.

Normal soil and surface water drainage is provided, with the exception of that from the laboratories, which have acid-resisting pipes and joints, together with the provision of a large intercepting manhole at the end of the drain before connection to the Local Authority's sewer. Heating by means of low pressure hot water radiator system and steam supply to laboratories is operated by separate automatic oil-fired boilers. Electric lighting to laboratories is by fluorescent tubes, and tungsten filament lamps to all administrative offices.

The Refrigerating Unit consists of two separate compartments, built in between brick walls, the whole insulated by 3in. of cork slab and finished internally with stipple glazed asbestos sheeting. Each compartment has an internal capacity of 50 cubic feet. One compartment is maintained to a temperature of 0 degrees Centigrade, and the other to a temperature of -5 degrees Centigrade.

The temperature is controlled from a thermostat in each compartment, and the plant is fitted with control gear, making it fully automatic in operation. The refrigerating equipment is Model 2B3 Hallmark Unit, driven by a $\frac{3}{4}$ h.p. electric motor and fitted with a condenser of the air-cooled type.

The installation of the plant and cabinets was carried out by Messrs. J. & E. Hall Limited of Dartford, Kent.

The main duct over the central corridor which serves the laboratories with steam, air, hot and cold water, and gas

General Contractor :

A. E. Symes, Ltd.

Acrotile Flooring: Armstrong Cork Co., Ltd. Artificial Stone: Girdings' Ferro-Concrete Co., Ltd. Asphalt: Limmer & Trinidad Lake Asphalt Co., Ltd. Balustrading to Staircase and Guardrail to Window: Morris Singer Co., Ltd. Blinds: J. Dean. Bricks: Berkhamsted Brick Co., Ltd. (Sand Faced); Henry J. Greenham, Ltd. (Brindled Wirecut Facings). Doors: Durasted, Ltd. (Fire Resisting); Manor Joinery Works, Ltd. (Plywood Faced Flush). Flat Roofs: The Siegwart Floor Co., Ltd. Furnishings: Baird & Tatlock (London), Ltd. Gas Service: North Thames Gas Board. Glazing (Copperlute): B. Finch & Co., Ltd. Ironmongery: Comyn Ching & Co. (London), Ltd. Ladders (Cat): T. W. Palmer & Co., Ltd. Linoleum: Lewis Bros., Ltd. Mirrors: Nicholls & Clarke, Ltd. Nameplates (Bronze): H. H. Martyn & Co., Ltd. Radiator Grilles and Tubular Gates: Morris Singer Co., Ltd. Refrigerating Plant: J. & E. Hall, Ltd. Sanitary Fittings: Churchill Johnson, Ltd. Sinks: Doulton & Co., Ltd. (Acid Resisting Stoneware); Carty & Sons, Ltd. (Lead Lined). Staircase—Reinforced Concrete: F. Bradford & Co., Ltd. Step and Riser—Green Slate: Setchell & Sons, Ltd. Structural Steelwork: Smith Walker, Ltd. Terrazzo Pavings: Diespeker & Co., Ltd. Tiling to Fume Cupboards: Carter & Co. (London), Ltd. Wall Panels (Vitrolite): B. Finch & Co., Ltd. Windows and Partitions (Metal): A. E. Beanes & Co., Ltd. Wire Mesh Trays: G. A. Harvey & Co. (London), Ltd.



HOUSING IN ROTTERDAM

by

ROLF ROSNER, A.R.I.B.A. A.M.T.P.I.

SINCE the Reformation, Rotterdam has been one of Europe's most important harbours, the impetus of the Industrial Revolution accelerated its growth. From a population of 53,000 in 1800, the number of inhabitants increased to 90,000 in 1850 and 312,000 in 1900.

When the New Waterway had been completed in 1872, numerous harbours were built on either bank of the Maas and the City boundaries rapidly expanded.

The population density in the inner areas increased and housing conditions deteriorated. In some districts as many as 400 persons were living on one acre; back-to-back houses adjoined alleys three-and-a-half to seven feet wide. A section of the population from the old town, as well as new settlers, went to live in the "lanengebied," a green belt of pleasure gardens belonging to the well-to-do outside the ancient city walls.hovels, tenements and workshops sprang up everywhere and the original owners were ousted, a process which, however, proved to be most profitable. These areas quickly deteriorated into foul slums, for here, established building regulations did not apply; the incidence of diseases was high because in some of the low-lying districts the water table was just below the floors of houses.

Between 1842 and 1858 the City Architect, Rose, proposed far-reaching projects to improve housing and town planning. Certain waterways were to be filled-in, whilst others which



2. SPANGEN. Block of double maisonnettes, built in the early nineteen-twenties. The 8ft. wide access balcony was once used by tradesmen with handcarts and tricycles.

had been reduced to open sewers were to be flushed by a network of pumps. Several overcrowded districts were to be compulsorily purchased, cleared and rebuilt at lower densities. A new network of 66ft wide roads radiating from the city's centre was to be laid through the "lanengebied." After much opposition the plan was approved in 1859 and then gradually put into effect. By 1900 the population of Rotterdam had grown to 300,000 and by 1917 to 500,000. The influence of the public authorities on housing and town planning had increased substantially. Planned extension schemes could be drawn up and realized by means of compulsory purchase. Pioneer schemes in the field of housing were now beginning to be developed.

Already, some years before the first world war, blocks of



1. VREEWIJK. The garden suburb from the Valkeniersweg.

flats with staircase access were built with private storage rooms for each flat in a semi-basement. Generally, the dwellings were equipped with shower baths which to this day have remained an important feature of Dutch housing. During the intermediate pre-war years the organization of housing associations, fully aided by the municipality, expanded rapidly. Outstanding among these is the Vreewijk [1] association which, founded in 1913, now owns a most charming garden village, rather reminiscent of the Hampstead Garden Suburb. Vreewijk incorporates 5,100 dwellings of which more than 4,700 are family houses. Eighty-five per cent of the 23,000 inhabitants belong to the wage-earning classes. The popularity of Vreewijk can be illustrated by the fact that removals are exceptionally rare.

In the early nineteen-twenties, the first block of experimental double maisonnettes were built in Spangen [2]. The access balcony at second floor level was 8ft wide to allow passage for tradesmen's handcarts and tricycles which were brought up by lift. The steadily improving quality of municipal housing was marred by the continued existence in private housing of alcove beds; generally two alcoves without adequate ventilation were placed at the rear of a living-room, one for the parents and one for the children. Not until 1937 was this unhygienic type of sleeping accommodation completely prohibited. Inspired by the successful development of Vreewijk, the Director of Public Health decided to build a garden suburb of 500 houses, now known as "Sportdorp" (Sports Village) [3] as an experiment in layout and orientation. Terraces with a north-south axis were planned to have adjoining back gardens, whilst those along an east-west axis each had an access road to the north (see Fig. [3]).

The revised building code of 1939 is also of much interest: a dwelling must include a hall or landing of at least 4ft length, one living-room with a minimum floor area of 176 sq ft; a second room and a kitchen with respective minimum floor areas of 77 and 39 sq ft. Minimum ceiling heights were



3. SPORTSDORP—Above L: The last row of terrace houses, back elevation and service road. R: Attached to the flank walls of many 2-storey terraces there are local shops.

4. KRALINGEN. R: Home for elderly ladies. Below, L: Block of flats by J. H. Van den Broek and J. B. Bakema. R: 4-storey blocks of flats with set back top-storeys containing one-room dwellings. In the foreground, terrace houses. Gaily striped blinds can be found even in the most humble dwellings.



raised from 8ft 4in to 9ft. The height of street elevation before 1939 was allowed to be $1\frac{1}{2}$ times the distance between facing blocks (i.e. width of street). Since 1939 the street elevation may not be more than two-thirds of the street width in the case of open-end blocks and three-quarters of the width for closed-end blocks.

On the 14th of May, 1940, German bombers in an attack on this undefended city, destroyed 24,704 dwellings. Nearly 3,000 more dwellings were lost during the following war years. As in that period no more than 7,000 new dwellings could be completed, an acute housing shortage developed by 1945. In 1946 13,000 dwellings were shared by two different householders. By 1950 the figure had risen to 29,000. Statistics indicate that between 1950 and 1965 about 5,000 dwellings a year must be built, when allowance is made for the natural population increase, migratory movements and the elimination of shared dwellings. At the

end of the war, the building industry was thoroughly disorganized and costs had risen by 350 per cent. The government, therefore, decided to aid housing with substantial subsidies and the promotion of municipal building. In Rotterdam various methods of non-traditional construction were widely used to speed output.

Various Housing Schemes

(1) Kralingen:

The raid of 1940 completely destroyed 92 acres of the densely developed residential district of Kralingen near the centre of the city. In 1943 the then state authorities commissioned teams of architects and builders to prepare designs and layouts under the supervision of a chief architect, for blocks of flats in the reconstructed district. War-time difficulties delayed the scheme, which was to be realized by private builders, until 1946 when the government



5. WIELEWAAL. An estate of 500 family bungalows. It can be seen that the Dutch succeed in planting larger trees than we do.

instructed the municipality to take over. The flats were now designed and built according to standards laid down, during the occupation, by a study-group of architects. These standards were considerably higher than those valid before the war; and so far as working-class housing was concerned were intended to be an example for the whole country. Some of the main points are worth noting:—

(a) Bedrooms should preferably not adjoin staircases, kitchens or lavatories; children's bedrooms should not adjoin the living room.

(b) One bedroom should have a flue connection for a stove.

(c) Coal storage should not be inside the dwelling.

(d) Each flat must have a balcony, verandah or loggia with a minimum area of 33 sq ft.

(e) The minimum floor space of the living room varies with the number of beds allowed for in the flat:—

(i) 3 bedrooms (5 beds): at least 176 sq ft.

(ii) 3 bedrooms or more (6-8 beds): at least 198 sq ft.

(iii) More than 4 bedrooms (9 or more beds): at least 220 sq ft.

(f) The kitchen must be at least 5ft 8in wide and have a minimum floor area of 50 sq ft. There should be direct or indirect access to a balcony or verandah.

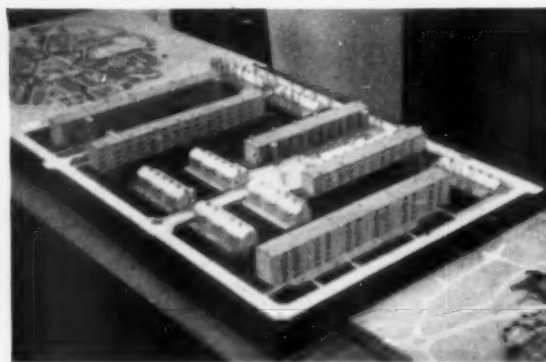
(g) Each flat must have a bathroom or shower cubicle with a dressing space of at least 3ft width and a floor space of 20 sq ft.

The current population density in the reconstructed parts

of Kralingen is much lower than its pre-war equivalent. 5,663 destroyed dwellings are being replaced by 1,500 dwellings. Some blocks have a fourth floor of small flats with broad balconies at either side. All green spaces between blocks are accessible from the public staircases. [4]

(2) Wielewaal:

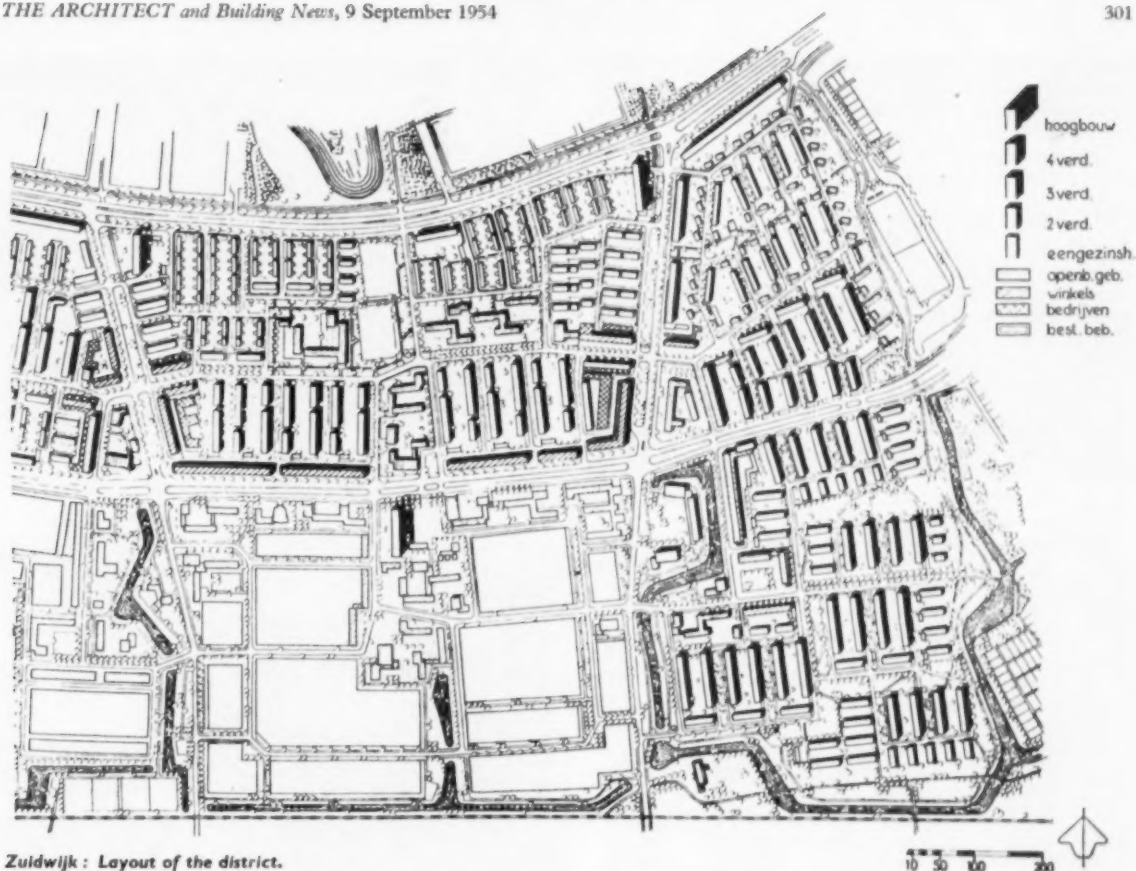
In 1948 the authorities decided to speed up housing output by erecting 500 bungalows in a South-Rotterdam area. A fairly firm sub-soil made possible the elimination of pile foundations which ordinarily are an essential part of any building in Rotterdam. The project which was almost completed in 1949 includes dwellings for average and large families. The majority have 2 or 3 bedrooms, 30 have 4 or 5 bedrooms and a few are intended for very large families of 14 to 16 persons. In the latter case the floor space of dwellings ranges between 2,145 to 3,135 sq ft. Much attention has been given to landscaping. Many sizable trees, flowering



6. PENDRECHT. This represents the basic residential unit which is repeated many times in the layout of Pendrecht. The unit incorporates blocks of flats for single persons and couples with one child or none; 2-storey terrace houses for larger families, and 1-storey old people's bungalows. Culs-de-sac for vehicular service and parking penetrate into the unit, the centre of which is reserved for a children's "playstreet." Like many others, this is a rigid layout. Not a few Dutch planners hold that informal plans are precious and needlessly expensive where contours are non-existent.

shrubs and rose bushes enhance open spaces and front gardens. The network of service roads has been reduced to a minimum; the bungalows are reached by access paths suitable for handcars and tradesmen's cycles. [5]





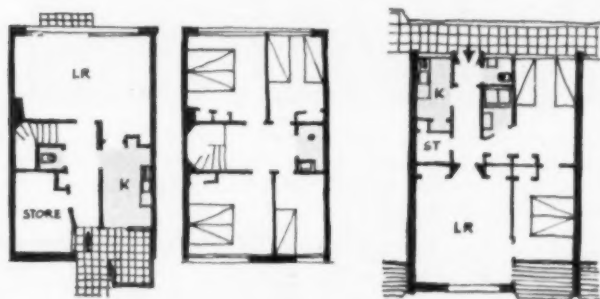
Zuidwijk: Layout of the district.

(3) Zuidplein

During the last 30 years the southern half of Rotterdam has been rapidly developed through the initiative of the city authorities, particularly the districts of Lombardijen, Pendrecht [6] and Zuidwijk [7] which jointly will incorporate, when completed, more than 20,000 dwellings. The aim is to counterbalance the traditionally predominant North with numerous neighbourhoods, including all ancillary types of buildings, light industries and substantial open spaces. A northern park belt, with playing fields, will

separate these districts from more obsolete development adjoining the Maas.

At chosen points, buildings of exceptional heights are to provide a focus of interest. The 14-storey block of flats "Zuidplein" along the 2-level crossing of two arterial roads of astonishing width, the Mijnsheerenlaan and the Pleinweg to Dordrecht is one of the first of these landmarks to be completed. 72 flats for small families include a living room, one or two bedrooms, kitchenette and showerbaths, and the 13th and 14th floors, 46 one-room flats. The block also incorporates a laundry, storage rooms, garages, a ground floor



7. ZUIDWIJK—L: Shops with superimposed maisonnettes and stores adjoining backyard. R: 2-storey terrace houses (left-hand plan above).

8. ZUIDPLEIN. The 14-storey slab block, a dominant feature of the district (right-hand plan above). In the foreground the Z-level crossing of two main arterial roads is being constructed.



wing for offices, central heating and hot water supply. A covered children's playground is situated in half an acre of communal garden. The reinforced concrete frame rests on 270 piles, 53 feet deep. [8]

The municipality is the majority shareholder in the company which owns the building.

(4) Overschie

In Overschie, a north-western district on either side of the arterial road to The Hague, the housing authorities have built more than 2,000 flats, making use of various methods of non-traditional construction. [8a]

Five systems were used.

(1) The "Welschen" system:

This incorporates site-fabricated aerated concrete panels for the inner walls, partitions and inner skins of external walls; floor joists and filler units are also precast. The outer skin of the external walls consists of normal reinforced concrete. A "Chromolith" coating in various colours enhances the appearance of the blocks.

(2) Wijmer and Breukelman system:

Pre-fabricated reinforced concrete joists, stanchions and floor planks are stacked beside the building site in a special order and then assembled by movable cranes with the assistance of a small team of workmen. The inner walls consist of ordinary bricks and the outer walls of 6ft 8in x 9ft 4in (2m x 2.80m) glass-wool insulated concrete panels, which are also placed by crane. These panels have occasionally been cast with a geometric pattern in relief in order to lighten the stark appearance of fair-faced concrete. One crane and team of workmen can erect one flat a day, excluding finishes. The system was designed by two architects.

(3) The "Korrel" system:

This is no-fines concrete construction using an aggregate of brick rubble from destroyed buildings.

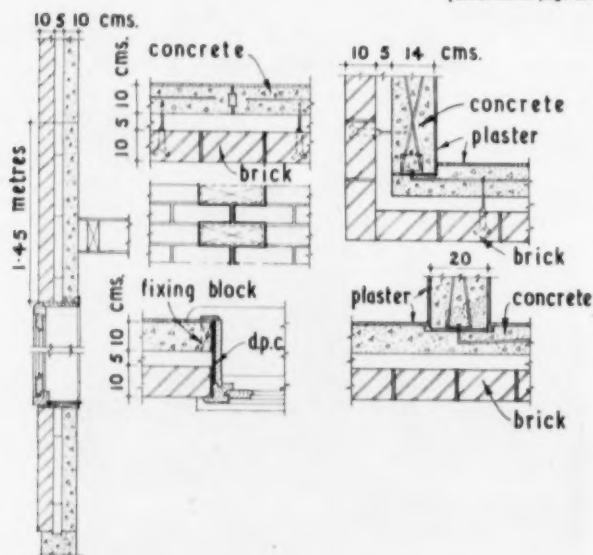
(4) The "Kossel" system:

This is lightweight concrete block construction with external rendering.

(5) Simplified Brick Construction (a British patent):

The system incorporates prefabricated brick panels for use in external walls. The panels are cast on site; fabrication on a conveyor belt requires seven phases. Unskilled operatives lay the bricks on a grid, divided by ridges 5mm wide and place cramps for connections with the in-

[Continued on page 304]

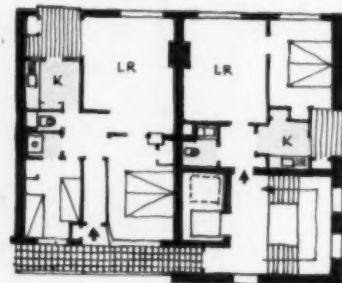


vertical section

System No. 5



8A. OVERSCHIE. Top: One of several groups of 10-storey blocks. The piers between the recessed balconies and between the adjoining windows form the flanges to H-shaped brick cross-walls which are load bearing throughout the whole height of the building, and only reinforced in the two lowest storeys. Middle: 4-storey prefabricated blocks of flats. Bottom: Entrance detail of prefabricated blocks of flats. Postal lockers for each dwelling are a widely used feature.



Plan of 10-storey block



9. Post-war terrace houses built by Housing Associations.



10. Blocks of higher-income group flats in the city centre.



ternal skin of the wall panel. Mortar is then poured over the bricks and vibration applied in order to assure the thorough filling of joints. Finally, after an inner skin of lightweight concrete has been added, the whole is left to set. These panels can be of differing shapes and may incorporate openings. They are placed by crane and adjusted manually.

Methods of Housing Administration

(1) Card-index System

The Municipal Housing Department has a card-index system for all houses in Rotterdam with a systematic description and a sketch of each dwelling. These data are on punch cards so that they can be sorted mechanically in numerous ways for statistical research. Surveys can be compiled for the whole town or its districts and neighbourhoods, with data referring to type, age, size and rent class, whether with or without a lavatory, bathroom or whether having other deficiencies. These data can be related to each other in innumerable mutations and are therefore valuable for determining future housing and planning layouts. Current shortages and shortcomings can be compensated or avoided in new schemes; this particularly applies to slum clearance.

(2) Women's Advisory Committee

The Housing Department has organized a Women's Advisory Committee which has been most successful. Members are housewives, welfare workers and architects.

(3) Enquiry into Tenants' Views about Their Dwellings

This is being carried out with the aid of the Women's Advisory Committee and the Society for Women's Voluntary Service. Questions are asked about plan and details of each room. It appears that even a generally accepted design for a letter-box is difficult to find; this detail was subject to frequent complaints.

4) Tenants' Committees:

In blocks of flats with communal staircases and adjoining public open spaces, the chance of friction between tenants and neglect of common responsibilities is great. Tenants' committees can do much to improve matters; some have been organized on various estates with satisfactory results. In one large block in Kralingen a tenants' committee cares for green areas. Children have been enlisted to keep them clean and to plant bulbs.

The Committees not only act as a link between tenants and the housing management but also organize social activities especially for children.

Conclusion:

Some years will have to pass before the demand for dwellings of contemporary standards is fully met in



11. Private house near the Kralingseplas.
Tailpiece: shopping centre and 4-storey block of flats at Zuidwijk.

Rotterdam. The high incidence of shared dwellings, and the continued survival of obsolete districts and slums are ample proof of that. Against these shortcomings must be set a fine tradition of municipal enterprise and remarkable achievements in the fields of housing and planning since the catastrophe of 1940. Few of the war-ravaged cities of Europe can equal these achievements.



THE RÔLE OF THE NATIONAL HOUSE-BUILDERS' REGISTRATION COUNCIL

THE housing figures for the first half of this year show that the number of houses completed by private builders was 39,730—an increase of no less than 65.9 per cent on the private builders' contribution in the first six months of 1953.

Government policy, a steadily increasing tide of building materials and components from the manufacturers' yards and workshops, and the gradual regearing of private enterprise house-building firms together seem to suggest that this section of the industry is now well on its way towards regaining the pre-eminent position it held during the inter-war years when private builders built some four million new homes.

This increasing activity on the part of private builders doubtless raises some important questions in the minds of those who have the interest not only of the building industry but of the public at heart. Valuable as the contribution of the private builder was before the war his efforts were not without attendant troubles. It was somewhat inevitable that a housing drive on the scale then achieved should bring in its train an increasing number of that class of person popularly known as "jerry builders" who, either from ignorance of sound building or from a desire to exploit the situation to its utmost, built houses below reasonable and acceptable standards of construction. This evil spread to such an extent that deluded victims rightly complained that it ought not to be left unchecked. Subsequent complaints in the Press were detrimental not only to the offenders, which was no more than poetic justice, but to the whole of the reputable house-building industry.

The housebuilding industry voluntarily took steps to overcome the problem by means of the inspection and certification of houses by an accepted independent and unbiased body—the National House-Builders Registration Council.

Unfortunately the work of the Council had scarcely got under way when the war came and the virtual cessation of private housebuilding until comparatively recent years has hampered the development of the Council's certification scheme.

Changing Picture

Now the picture is changing rapidly and if the housebuilding industry is to avoid the pitfalls of the inter-war period increasing attention must be directed to the work and aims of the N.H.B.R.C.

This brings us to the purpose of this

article—to describe what the National House-Builders Registration Council is, what it does and how it works, for it is important to all concerned in any way with housebuilding to know the advantages of the scheme it operates.

The Council was formed with the official approval of the Minister of Health in 1936 and is recognized by Statute. It is constituted under Licence of the Board of Trade as a non-profit-making body. Its members are nominated by the Royal Institute of British Architects, the Royal Institution of Chartered Surveyors, the Chartered Auctioneers and Estate Agents Institute, the Building Societies Association, various associations representing local authorities' interests, womens' interests, and societies for the preservation of rural and urban amenities, house-builders, operatives and occupiers. Its principal interest is the maintenance of an improved system of housebuilding.

As a means of achieving this the Council issues certificates in respect of houses which after regular independent inspection during construction are reported to conform to the standards prescribed by the Council's Specification.

Some houses are built under the direct supervision at all stages of construction of an architect or surveyor acting on behalf of the purchasers—often assisted by a whole-time clerk of works. But in the case of houses built by private enterprise on a commercial or speculative basis the protection of the purchasers' or tenants' interests is afforded by this kind of supervision is not ordinarily available.

Byelaw Inspections

It is true that a certain amount of inspection is undertaken by local authorities for byelaw purposes. The building byelaws of local authorities are penal codes, that is to say, they set out a minimum standard to infringe which is an offence. They do not, however, cover the whole ground, being primarily devised in the interests of public health and safety. Their effectiveness, even within their limited scope, is dependent upon the degree to which the buildings are supervised, at the expense of the ratepayers, by the officials of the local authority. It is by no means a reflection upon the efficiency and conscientiousness of these officials that in the past the ignorant or intentional "jerry builder" has been able to proceed with his own methods. What has happened in the past could equally well happen again without constant vigilance on the part of prospec-

tive and potential house purchasers, the local authorities and the reputable housebuilders.

It is important to remember also that the building byelaws do not themselves provide a general specification in regard to materials or workmanship so that many matters of direct concern to the occupier of a house, in respect of his comfort and the resources of his purse, are not covered.

Apart from the building byelaws, however, it may be said that the building societies, who make inspections for valuation purposes, normally inspect immediately the house is completed. When this happens it is too late to see hidden faults in construction and too early to discover the full effects of such faults. It can never be argued that these inspections at the completion of a house can take the place of a number of inspections during the various stages of construction.

Filling the Gaps

The National House-Builders Registration Council's scheme effectively fills the gaps left by the inspections of local authority officials and building society inspectors. The Council carries out its functions by:

- (1) Setting up and maintaining a National Register of reputable housebuilders who agree to build to standards not lower than those prescribed by the Council's Specification;

- (2) Preparing such a Specification, prescribing the standards of materials and workmanship necessary for a minimum degree of sound construction;

- (3) Inspecting at suitable stages of construction all the houses built by builders on the Register; and

- (4) Issuing certificates of all houses built by registered housebuilders which conform to the standards prescribed by the Council.

The service rendered by the N.H.B.R.C. is intended to apply to every house built in England and Wales other than those which are built under the supervision of an architect appointed by and acting independently for the owner. It is not a selective service, for every builder who applies for registration with the Council is required to give the following undertaking:

- (1) That every house he builds shall be of a standard not lower than the standards from time to time prescribed, adopted or approved by the N.H.B.R.C.;

[Continued on page 308]



North-East
elevation

House at Woodford Green, Essex

architects : CHALLEN & FLOYD

THE architects were asked to produce a design for a detached 3-bedroom 2-storey private dwelling for about £4,000, on a fairly steep clay site falling towards a natural pond in an already established garden. Early sketches making a full imaginative use of the site nearer the water had to be abandoned on the score of foundation costs, and a fairly tight plan was adopted with a western entrance from a short drive at right angles to the east-west avenue. In the event the lowest tender figure had to be vigorously cut to meet the desired expenditure and the licence.

In the adopted layout the dining room has its view directed towards existing flower gardens and the living room has doors onto a terrace overlooking the pond, with large southern windows to a small enclosed garden. A builders' housing development to the south and west will be subsequently screened by careful planting.

A completely open ground floor plan was objected to by the building owner and the visual inclusion of the hall with a glazed screen division was not accepted. The present plan, however, does allow, by withdrawing a sliding-folding partition, a room 12ft x 31ft.

A great deal of work had to be put into the sloping clay foundations, and agricultural drains were laid transverse to the natural seepage of water to the pond.

The bricks are Venetian Red hand-made sand-faced of local manufacture (at a P.C. sum of 275s per thou.) in stretcher bond; the pointing was 6:2:1 mix, buff in colour.

The external walls are 11in cavity with the inner skin 4½in Broad Acheson Concrete blocks.

The roof is 20° pitch and covered in Celotex sheeting underlay and Italian pattern corrugated zinc roofing sheets 8ft 6in x 2ft 8in with wood rolls at 15in centres.

The windows are purpose designed by the architects with large opening sashes vertically pivot hung. The screen at the foot of the staircase was designed in teak and

beech to provide a certain privacy from the entrance door.

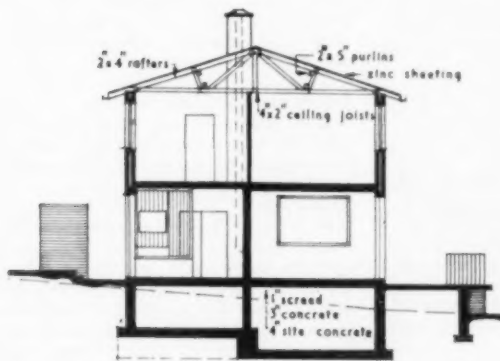
Plaster ceilings are based on plaster board and internal walls are finished generally in ¾in Thistle brand plaster.

Rainwater pipes and gutters are blue enamel finish chosen from Messrs. Vitreflex range. Heating and hot water are provided from a central ideal boiler of 51,000 B.T.U. output which circulates through a calorifier in a 40-gall. storage tank and directly to radiators throughout the house and is calculated to provide a 60°F background heat. Summer water heating is provided by a 3 kW electric immersion heater. The site concrete slab is covered in 3in of "No fines" concrete above the D.P.C. and finished in African teak blocks. Drainage is one-pipe: electrical installation is on the ring main system and generally in accordance with B.S.1363. Glazing is generally 32oz O.Q. glass, acid etched where privacy is required. The entrance door has a surround of ½in "Luminating" glass.

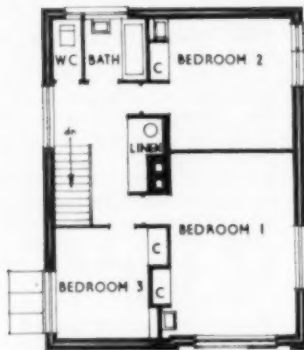
Joinery includes built-in wardrobes in the bedrooms, linen cupboard, cloaks cupboard, and certain kitchen cupboards. Ironmongery is B.M.A. finish, supplied by Comyn Ching; external rendering is Cullamix.

Approximate breakdown of cost by trades :

Foundations below D.P.C.	£545	Sanitary Fittings	£113
Precast Concrete	£30	Zinc Roofer	£200
Brick Layer	£614	Glazier	£34
Pavior	£40	Painter	£247
Carpenter	£194	Drainlayer	£113
Joiner	£590	Fuel Store, etc.	£85
Ironmonger	£118	Entrance door canopy	£20
Steel and Ironworker	£47		
Electrician	£97		
Plasterer and Tiler	£365		
Plumber and Heating	£521		
			£4,000



TYPICAL SECTION



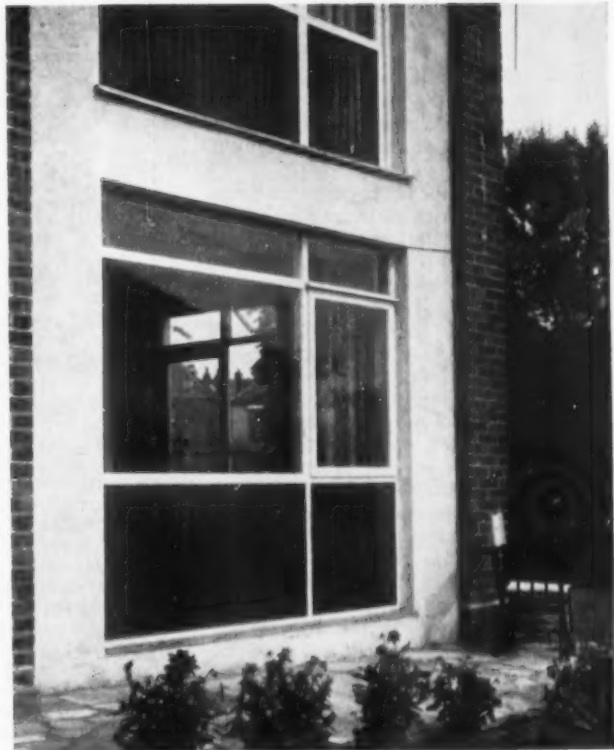
FIRST FLOOR



GROUND FLOOR PLAN. Scale: 1 in = 8 ft.

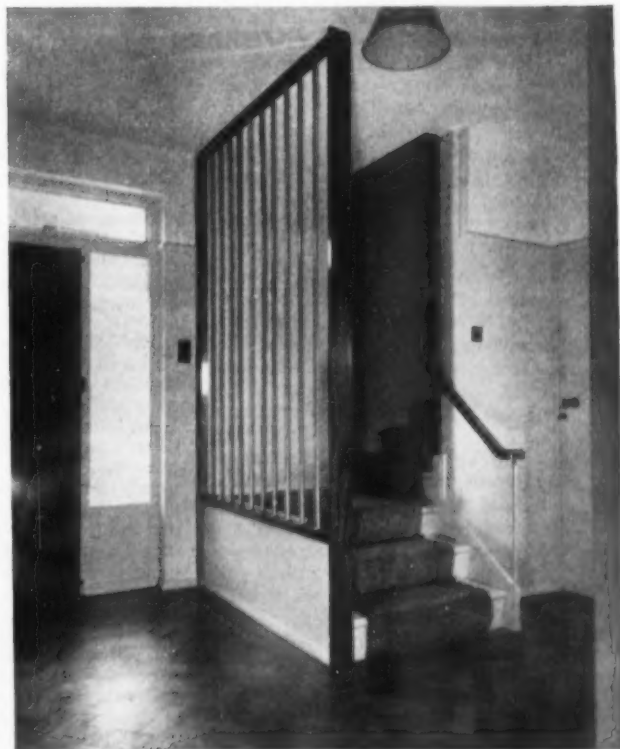
General Contractor : Wallace & Wallace

Block Floors: Viger Bros. Boiler and Radiators: Ideal Boilers & Radiators, Ltd. Bricks, Tudor Facings: W. and C. French, Ltd. Electrical Installation: L.E.B. Heating and Plumbing: Gen. Contractor. Ironmongery: Comyn Ching & Co. (London), Ltd. Rainwater Goods: Vitreflex, Ltd. Sanitary Fittings and Tiling: B. Finch & Co., Ltd. Special Joinery: Fosters (Woodworkers), Ltd. Zinc Roofing: F. Braby & Co., Ltd.



Detail of living-room window on the south wall.

Entrance hall.



THE N.H.B.R.C.

Continued from page 305

(2) That he will permit and co-operate in the inspection of his work by officers acting on behalf of the Council both during progress and after completion;

(3) That he will apply to the Council for a certificate in respect of every house he builds for sale or letting;

(4) That he will enter into an agreement with every purchaser to whom he sells a house to make good at his own expense and within a reasonable time all defects attributable to non-compliance with the Council's standards which occur and are reported to him during a period of two years; and

(5) That in case of any dispute arising under this agreement he will abide by the decision of an assessor or tribunal appointed by the Council.

To the extent that it has been possible to operate this scheme over the past 18 years or so it has proved of real value not only to the house purchaser but also to the bona fide housebuilder. The industry cannot afford to have its good name impaired by irresponsible people who have no real roots in the industry. Although, in the present circumstances, it is probably true to say that any kind of house will find a ready sale, the continuity of the market for the genuine housebuilders' output depends upon public confidence, and the service of the Registration Council is designed to ensure this confidence.

An initial fee of three guineas is charged to the builder for registration which is renewable upon the payment of one guinea annually. A fee of three guineas is charged for the inspection of each house, there normally being five or more inspections made during construction.

Minister's Approval

The service offered by the Council cannot be too widely known at this time. As Mr. Harold Macmillan, Minister of Housing and Local Government, said earlier this year: "It is not enough to help the aspiring-owner-occupier to buy his house. He must be ensured of a good house, soundly constructed, well designed inside and out, pleasant to look at and convenient to live in. The powers of the local planning authorities to control development and the external appearance of buildings needs supplementation, especially as regards the quality of materials and workmanship. The influence and strength of the National House-Builders Registration Council needs much building up after the interruption of the war and the succeeding years of building restriction so that it becomes established as a per-

manent influence in housebuilding—a really effective agent for improving standards of construction and workmanship. For my part I will do all I can to bring this about."

TIMBER NOTES

THOUGH there is plenty of softwood available, price and quality are disturbing many architects and contractors. In the carcassing grades only price is a worry, but in joinery the quality of the timber does not always come up to the standard expected, even though high prices are being paid.

Much of the trouble arises from taking timber out of smaller trees, and the lack of sufficient experience in kiln drying in Scandinavia. Architects will be pleased to learn these problems have been taken up strenuously with the Scandinavian shippers by the timber trade, and some improvement in the drying of the timber can be confidently expected. The manufacture of sawn softwood from small trees will be a permanent feature of future trading, for little virgin forest remains to be exploited, and here the architect will have to amend his ideas on the type of timber to be expected, especially in the wider pieces.

Prices of softwood are rising on the retail market, but this movement is really a deferred passing of higher prices paid early this year by the importers, and little respite can be anticipated from this rising tendency, for softwood prices are now a little dearer than at the start of the year; in the case of Canadian wood the increase is around £5 a standard. Some of the higher prices now being asked on the retail market still do not cover replacement costs for the timber trade, but there is encouragement to push prices up a little as consumption increases. In June the use of softwood reached almost 140,000 standards, being a peak month.

Buying of softwood for delivery this year has already reached 1,500,000 standards, and it is confidently expected to go above this figure. Stocks are increasing, and there appears little doubt that the softwood stock in the hands of the trade at the end of the year will be quite heavy. No supply difficulties for softwood users are foreseen.

An interesting change in the regulations covering import controls has been made for dollar plywoods in softwood, these now being freed for import as well as use. While there was previously no limit on use officially, supplies were made available only to those who had Government approval for dollar plywood to be used in the work on hand. Now Douglas fir plywood will be readily available, and this will provide architects with a source of larger sheets not obtainable elsewhere. There may also be much more interest in the decorative possibilities of sand-blasted plywood from Canada and the

United States, for many different effects can be obtained with this material in office and shop construction. Incidentally, plywood imports are now three times their 1953 size.

The Chairman of the Hardwood Importers' Section of the Timber Trade Federation has been authorized officially to tell members that there is little chance of restrictions upon dollar hardwood imports being lifted in the near future. Japanese oak and Yugoslav beech will benefit from this continued control, and prices which are already high will hardly weaken. Generally, sterling area hardwoods are priced rather lowly, especially from the tropics, but a movement upwards has been apparent in recent weeks, and this will probably become more definite as attention now turns to heavier hardwood buying in these areas. The importers had been nervous of buying more than needed to cover essential needs in case controls over dollar hardwoods were lifted, with the marked effect such a change would have on the market.

Fibre building boards are arriving in better volume, and there is less of the shortage noticeable these days. However, some difficulties in supplies have arisen in various districts in insulation boards, due primarily to the demand created by the prospect of a coal shortage in the coming winter. Many factories are improving their heat-retaining properties through use of these boards. So far this year fibre board imports have been double those of the equivalent period of 1953. Imports would be even better but for delays in shipping. A strong rumour persists in this section of the trade that importing freedom will soon be granted.

Productivity Team Report on Industrial Engineering

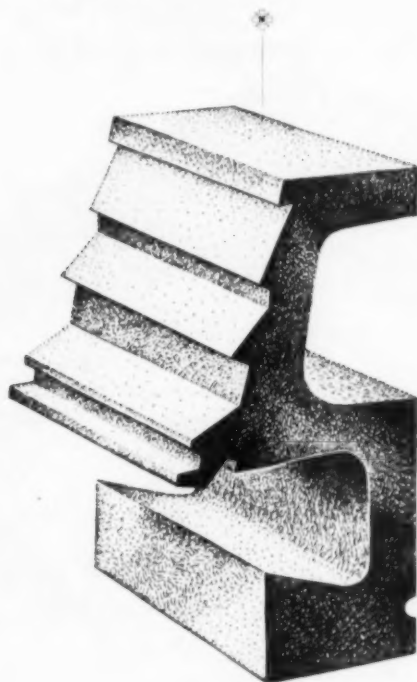
"Industrial Engineering" is the subject of the last of the Reports of the series of British Productivity Teams that have visited America.

Its members had a broad range of knowledge, being nominated by the D.S.I.R., the Engineering and Allied Employers' Federation, the T.U.C., the British Institute of Management, the Institute of Cost and Works Accountants, the Institution of Production Engineers and the Ministry of Education. Their Report was unanimous.

The Team found three factors of over-riding importance:

- (1) The sharp and urgent competitiveness of the U.S. economy;
- (2) The ever-present cost-consciousness among all ranks in industry and commerce, and the rapid marshalling of cost figures;
- (3) The concerted application of modern managerial techniques by the industrial engineer.

* Price 5s, post free, from the British Productivity Council, 21, Tothill Street, London, S.W.1.



What is it?

- A** *An Egyptian Plinth-piece*
(Isakhumen Dynasty)?
- B** *Pre-fabricated Rocker-Chock?*
- C** *Unexploded Political Pensioner?*
- D** *Manufactured Meteorite?*
- E** *Woozel Grommet-Block?*
- F** *An hallucination?*
- G** *Polynesian Plonka-Plectrum?*
- H** *Finlock Sprocket Block?*
- I** *Contemporary bust of Garibaldi?*
- J** *A Bricklesham's Bi-furbicated Bed-brick?*
- K** *An Easter Island Sculpture?*

Whodunit?

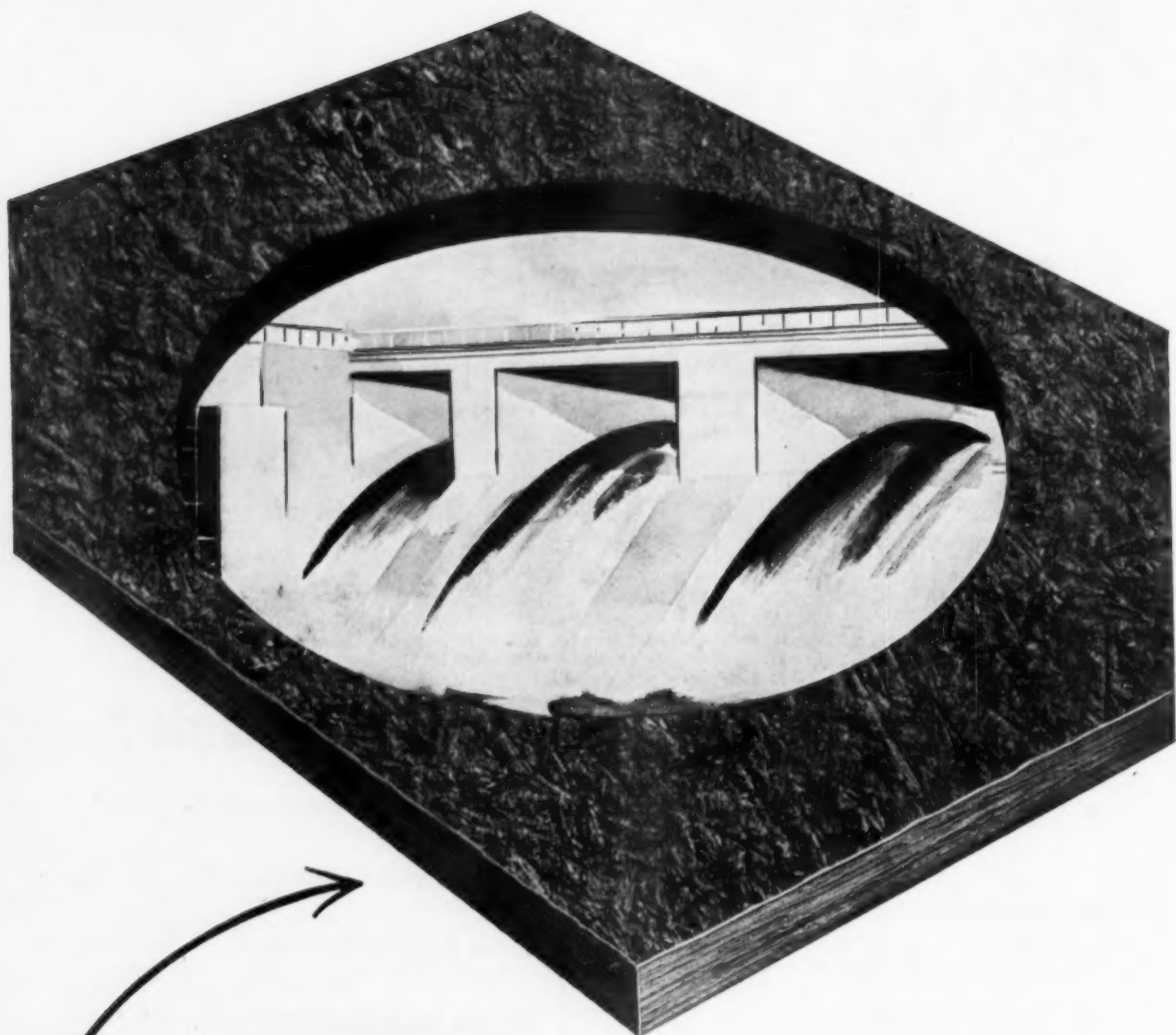
- A** *The Complicated Concrete Company?*
- B** *An eggbound Pterodactyl?*
- C** *A Sculptor of ill repute?*
- D** *An eaves specialist of good repute?*
- E** *M.I.5?*
- F** *The Pimlico Jigsaw Puzzle Co.?*
- G** *Muckleberry Urban District Council?*
- H** *An extrovert bricklayer's labourer*
who wishes to remain anonymous?

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Natural Aggregate for Concrete

THERE is an increasing realization of the importance of knowing the quality and, above all, the grading of an aggregate to be used for making concrete if good concrete is to be made from it. To-day, in many of the applications of concrete in the fields of building and civil engineering it is not sufficient merely to describe the concrete mix by stating the proportions of the materials, as the resultant concrete may be vastly different in many respects.

A full-scale national survey of available aggregates from natural sources has been made by B.S.S., which in itself has been a major task of very great value. On the basis of an analysis of the results of this survey the now well-known British Standard, B.S. 882 "Concrete aggregates from natural sources" and its accompanying B.S. 1201 "Aggregates for granolithic concrete floor finishes," have been completely revised.* The issue of this new edition is a matter of very great importance to all who specify concrete as well as to those who produce and supply aggregate, and should not, therefore, go unnoticed. It is understood that following the issue of this revision of B.S. 882 and B.S. 1201 it should not be long before new editions of the other British Standards, formerly incorporated in the same volume, should be completed. These are B.S. 1198 "Sands for plastering," B.S. 1199 "Sands for rendering and plastering" and B.S. 1200 "Sands for mortar"; these revisions also will be based on the information obtained from the same survey.

It may not be fully realized how much the aggregate-producing industry has had to expand itself to meet the ever-increasing use of concrete in a wide range of forms and products, of which it forms by far the greater part of the bulk in the finished state. The production of gravel aggregates alone in 1919 was only some two and a half million tons, but in 1953 this figure had reached 50 million tons per annum. Little thought is usually given by the users to where these millions of tons of aggregate come from; the availability is just an accepted fact. However, it has been shown in the recently completed report of the Advisory Committee on Sand and Gravel of the Ministry of Housing, perhaps better known as the Walters Committee, that in 50 years' time the supply of these materials may become quite acute in some parts of the country, and it is therefore essential that aggregate supplies shall be used as carefully as possible and made into the form of good concrete. The revision of B.S. 882 was necessary to take account of the quality and the nature of supplies of aggregates avail-

able and particularly of the fine aggregates. In preparing the revision it was appreciated that if there were a proper understanding of concrete mix design concrete of equal strength could be made from different gradings of aggregate; it is extremely important that this fact is appreciated if economic use is to be made of available materials. There has been a tendency to demand aggregates of gradings to suit a predetermined mix design, but there is fortunately now an improvement towards the more realistic course of adapting the design of the mix to suit the materials available near the site and at the same time achieving similar strengths.

The essential difference between the old and the new editions of B.S. 882 is above all in the specification of the fine aggregates. The two classes A and B of the former edition were shown to be unrealistic and tended to brand as inferior a large amount of available fine aggregates from which good concrete could be made. Therefore, the new edition has adopted a classification of the material into four grading zones in which the aggregate becomes progressively finer from Zone 1 to Zone 4. Incidentally, the range of these zones taken together is slightly wider than previously so that a greater amount of the available material may in fact be used. There is no suggestion that the grading zones are superior or inferior to one another, thus any material falling within this permitted range, if properly used, may be depended upon for the production of good concrete. To make concrete of high strength and good durability the mix proportions need to be chosen in relation to the grading characteristics of the fine aggregate used, thus the ratio of fine to coarse aggregate has to be reduced as the grading of the fine aggregate becomes finer. The standard gives information which should help users to design mixes, and attention is drawn to the need for consideration of the grading and shape of the coarse aggregates, particularly when the coarse outer limit of grading Zone 1 or fine outer limit of grading Zone 4 of the fine aggregates are used. All the grading is related to test sieves to B.S. 410 and most of the assessments of the quality of the aggregates are related to the now well-established tests covered by B.S. 812 "Sampling and testing of mineral aggregates, sands and fillers." Limits for clay, silt and fine dust are set down for gravel aggregate, crushed stone and coarse aggregate. Tables are included showing the amount of material which should pass various sizes of sieve for the normal grades of coarse aggregate and as a means of defining the zones in the fine aggregates. A similar grading for all-in aggregate is given. The Standard sets out a list

of information which the supplier shall furnish when requested by the purchaser; this relates to the source of supply, the group classification, the external characteristics, the physical properties and the grading. From the user's angle it is vitally important to know into which zone of B.S. 882 any fine aggregate purchased falls as it is only by this means that good concrete may be made. Users should be willing to accept local supplies from any zone within the Standard, even if this necessitates proper designing of or the revising of a specified design mix to use the available supply.

Without doubt there have been difficulties on some occasions in the past in obtaining supplies of aggregates to B.S. 882 and its associated Standards, but with this revision, and with a little more willingness on the part of quarry owners, there should be no difficulty in obtaining supplies throughout England to one or other of the zones, but, let it be stressed, not necessarily to a particular zone. Purchasers and those who specify should ask for the material to comply with B.S. 882 and should insist that the supplier, in his turn, informs the user into which zone the production will fall. This may mean that producers will have to take more care in their grading and to keep quality control records of their checks on this grading so that they may supply certificates which are a reasonably true indication of the zone into which the material they are producing falls. It may be that the demand for aggregates has tended for many years to exceed the supply and in consequence some producers have not taken the trouble they ought to have displayed to grade the material properly in order that the users may use it correctly. It is hoped, therefore that in the future this revision, which is clearly of an assistance to the producers, will eliminate the attitude, sometimes met, of "take what I produce without accurate description or find it somewhere else" will disappear.

Co-operation with the producers is also necessary from those who specify concrete, as they will have to state the strength of concrete they desire, which is the best way to the economic use of this material. However, when it is expected that contractors, such as those on smaller jobs, will not know how to produce a concrete of a required strength, it will be necessary to specify mix proportions in terms such as "1: 2: 4: based on the use of the fine aggregate of Zone 2 of B.S. 882," with the addition of words such as "which proportions shall be varied to suit the zone of the fine aggregate available to make concrete of equivalent strength to that specified."

DUTCH UNCLE

* Copies available from British Standards Institution, 2 Park St., London, W.1, price 2s 6d.

CURRENT MARKET PRICES (LONDON)

(These prices apply to material purchased in the quantities named or otherwise as might be expected for a new building of moderate size.)

September, 1954

AGGREGATES AND SAND

1½ inch—all in—ballast	22/-	Yard cube delivered
¾ inch do. do.	23/-	(in five yard loads or more)
¾ inch screened shingle	21/9	
¾ inch do. do.	22/-	
¾ inch granite chippings	60/-	
Sharp washed sand	22/-	
Pit sand	21/3	
Building sand	21/3	
Broken brick	18/6	
1½ inch shingle	21/-	
Cartage of muck	8/-	

BUILDING MATERIALS AS DESCRIBED, CENTRAL LONDON

CEMENTS packed in paper bags	Per ton
Portland in 6 ton lots	96/6
Do., from 1 ton to 5 ton 19 cwt do.	105/6
Do., Rapid hardening (6 ton lots)	104/6
Do. (but 1 ton to 5 ton 19 cwt)	113/6
Cement "Aquacrete" (do.)	138/-
Do., "417" or "Polar" (do.)	138/-
Do., "White" (1 ton lots)	257/-

LIME—		(1 ton loads) deliv'd.
Hydrated } including	126/-	do.
and paper	123/6 (2/3 do.)	do.
Ground } bags	113/6 (4/5 do.)	do.
	111/6 (6 do.)	do.

PLASTER—	
Keenes, coarse, pink (2 ton lots)	188/6 ton
Do. do. white (do.)	194/- do.
Sirapite, do. (2 ton to 3 ton 19 cwt lots)	139/6 do.
Do. finish (do.)	147/6 do.
Hardwall, do. (do.)	148/9 do.
Plaster, coarse, pink (do.)	137/3 do.
Do. do. white (do.)	145/9 do.
½ in. Plaster baseboard (25 to 149 yards)	2/9 Yard Sup.
Do. (150 to 299 yds.)	2/5 do.
3½ in Jute scrim (100 yd. roll)	8/7 each
Cow hair (under 3 cwt)	97/6 cwt

FIRECLAY—	
Stourbridge, loose (1 ton lots)	166/3 ton delivered
Fire cement	12/3 14 lb

BRICKS

BACKING BRICKS (in truck loads)—	
Flettons	113/- per 1,000 delivered
Do. Keyed	115/- do.
Do. bullnose	133/- do.
Blue wirecuts	462/6 do.
White	192/- do.
Southwater engineering (No. 1)	370/- do.
Firebricks—2½ inch	69/3 per 100 delivered
Do. —3 inch	87/3 do.

STOCK BRICKS—	
Mild stocks	176/6 per 1,000 at Works
Second, do.	211/- do.
First do.	227/- do.
Add for delivery—approx. 45/- per 1,000 in lorry loads.	

FACINGS (ex truck or lorry)—	
Rustics	138/- per 1,000 delivered
White	200/- do.
Blue pressed, 2½ in	509/6 do.
Do. bullnose	527/6 do.
Reds (Multi sand faced)	290/- do.
White glazed stretchers	1280/- do.
Do. headers	1260/- do.
Do. bullnose	1600/- do.
Do. double stretchers	1700/- do.
Do. double headers	1500/- do.
Breeze fixing bricks	28/6 per 100
Fire tiles and lumps	33/- foot cube
Wall ties—8" × ½" × ½", black	60/- per cwt
Cement mortar (1:3) hand-made	82/- yard cube

BRICKLAYERS' SUNDRIES—

AIR BRICKS	9 × 3in	9 × 6in	9 × 9in	12 × 9in
Iron	1/10	3/-	4/5	6/-
Galvanized do.	3/2	5/4	8/-	10/7
Terra Cotta	1/3	2/6	6/-	10/2
Chimney pots, Terra Cotta (11 to 25)	1ft	2ft	3ft	4ft
	6/8	11/8	26/6	45/8

PARTITIONS—

18in × 9in Blocks keyed for plastering.				
Per yard super in 6 ton lots	2in	2½ in	3in	
In solid clinker including any half blocks	3/7	4/2	5/-	
In cellular clinker blocks	4/3	4/11	5/9	
In hollow clay blocks	4/3	4/6	5/-	

Clinker blocks in small quantity 5/2 6/1 7/4
Intermediate quantities in all types may be had at intermediate prices.
Smooth in lieu of keyed faces extra cost per side 3d. per yd. super.

SINKS

Fireclay white glazed in and out—standard quality.	24 × 18in	30 × 18in	30 × 20in
London pattern, no overflow, 6in deep	62/-	77/-	81/-
Belfast, plain edge, 10in deep	71/-	122/-	163/-

FLUE LININGS PLAIN, CIRCULAR

	Foot lineal Straight	Each Bends
9in diameter	3/8	11/-
10in do.	4/7	13/9
12in do.	8/8	26/-
9in diameter, beaded end, 12in high		4/10

FLUE PIPES AND FITTINGS

	4in	5in	6in
Heavy asbestos type, 6ft length	15/3	21/-	26/6
Do. 3ft length	7/8	10/6	13/3
Do. bends	5/9	7/3	8/8
Light asbestos type, 6ft length	12/6	15/9	21/-
Do. 3ft length	6/3	7/11	10/6
Bends	4/7	5/9	6/11
Baffler	12/5	14/9	15/8

DRAINAGE GOODS

GLAZED STONEWARE STANDARD LIST

	4in	6in	9in
ORDINARY TYPE—EACH			
Pipes in 2 feet lengths	1/8	2/6	4/6
Bends	2/6	3/9	10/1½
Junctions (4in on 4in, 6in on 6in, 9in on 9in)	4/2	6/3	13/6
Gullies with 4in outlets	6/3	6/10½	11/3
4in horizontal inlets	2/-	3/-	5/-
4in vertical ditto	3/-	4/-	7/-
Black iron grids	9d	1/5	2/9

Adjustment to Current Cost

	2 ton lots or more	Less than 2 ton lots
100 pieces or more		Under 100 pieces
"Best" pipes and fittings. Percentages to add	67½	97½ 107½
Further percentages to be independently added in respect of: British Standard pipes, etc., 10. "Best" Tested pipes, 37½. British Standard Tested, 47½.		

IRON DRAINAGE GOODS—

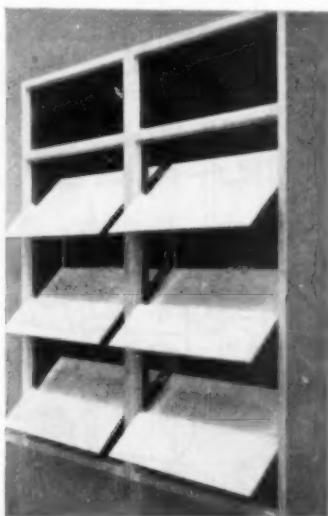
	2 ton lots.	4in	6in
Each			
Cast iron pipes, 9 feet long		63/9	94/6
Do. 6 feet do.		46/2	72/6
Do. 4 feet do.		36/1	56/6
Do. 2 feet do.		22/1	33/11
Short bend		14/2	29/7
Junction		25/1	48/6

[Continued on page 311]

FOR NEW DEVELOPMENTS
IN METAL WINDOW DESIGN
CONSULT

HOPE'S

*pioneers since 1818 with the cup pivot, lok'd bar joint,
cam opener, 2-point handle and friction hinge*



For the **Tropics**

HOPE'S LOUVRED WINDOW

Hollow steel louvres, lined with insulating material,
combat solar heat while admitting 100% ventilation.

Pivoted and coupled for simultaneous operation to any degree of opening.

HENRY HOPE & SONS LTD

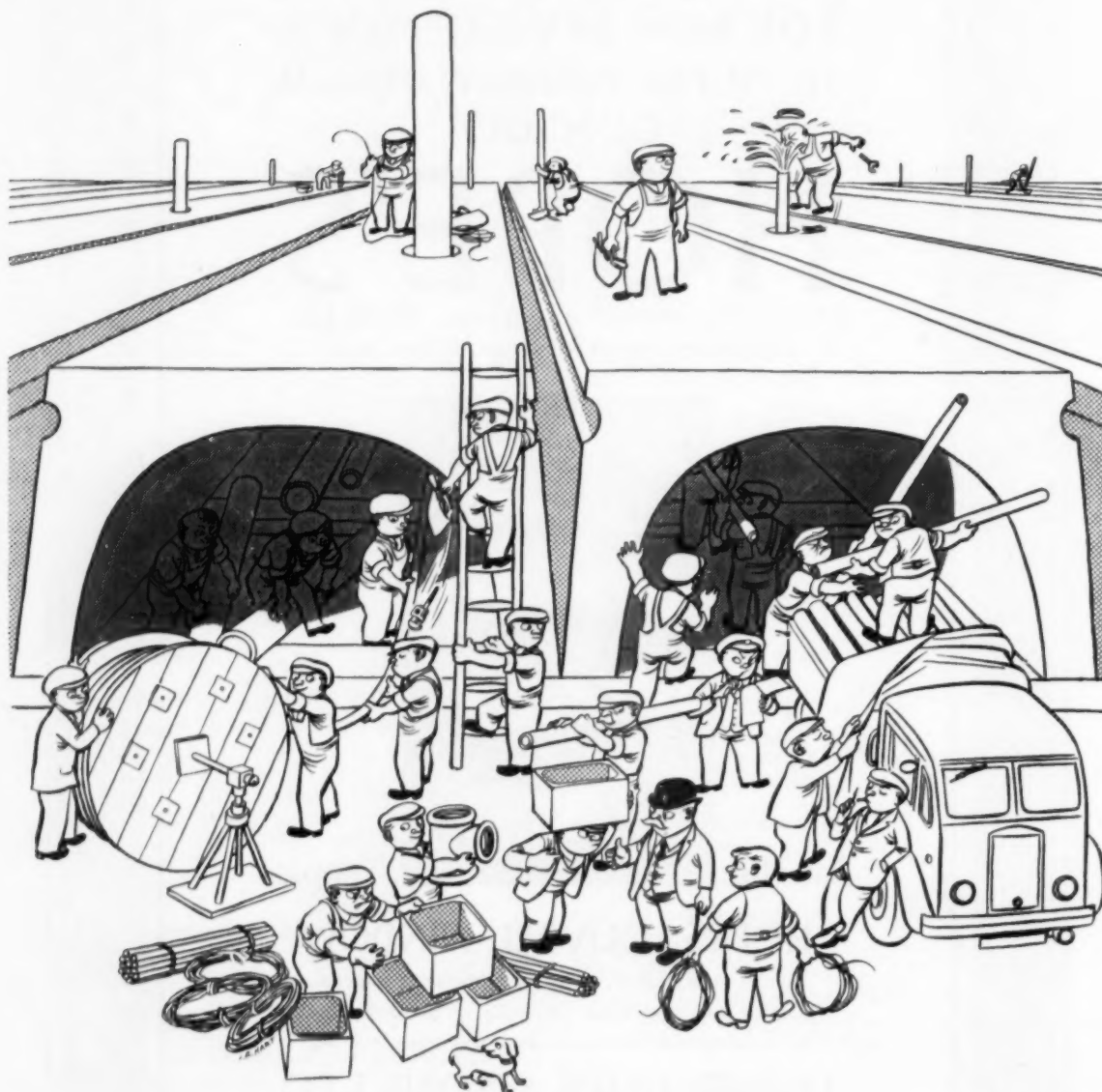
Smethwick, Birmingham & 17 Berners St., London, W. 1

MEMBER OF METAL WINDOW



MANUFACTURERS ASSOCIATION

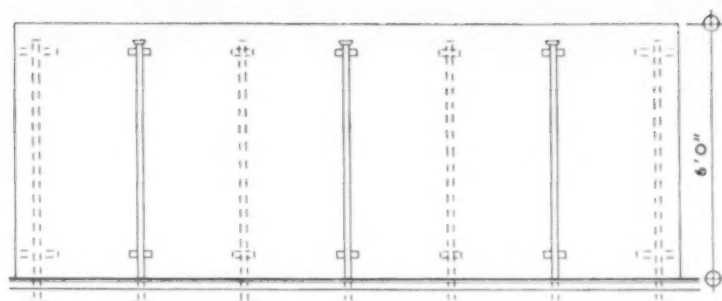
*The Truscon Precast Floor provides accommodation within the units for all services.
Access can be provided by holes in the crown without detriment to the great strength of the floor*



TRUSCON *the proved precast floor*

THE TRUSSED CONCRETE STEEL CO. LTD.

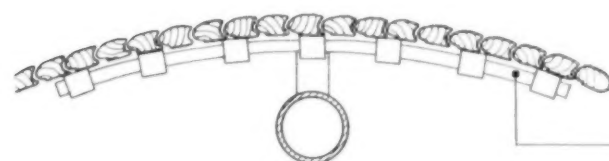
TRUSCON HOUSE, LOWER MARSH, LONDON, S.E.1. Telephone: WATERLOO 6922



ELEVATION



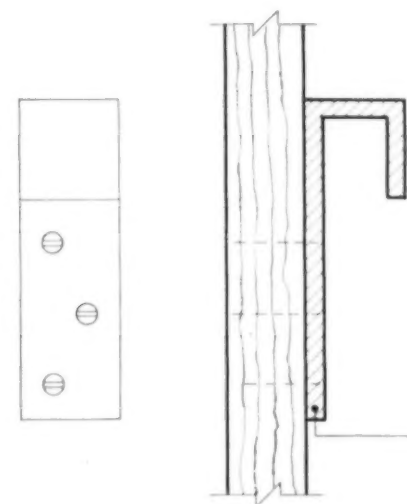
PLAN



PLAN OF END SUPPORT



FULL SIZE DETAIL OF BATTENS



FULL SIZE DETAIL OF SPECIAL CLIPS

REMOVABLE
CAP OF BEECH TO
MATCH FLOORING

3/4" ϕ SPACING
TUBE WELDED TO
SUPPORTS AND
BRACKETS

6" X 2" X 1/4"
BRACKETS ON
INTERMEDIATE
POSTS

1 1/2" INTERNAL
 ϕ POST WHITE
STOVE ENAMELLED

12" X 2" X 1/4"
BRACKETS ON
END POSTS ONLY

EX 1" X 1/2"
OAK BATTENS
SEALED AND
CLEAR CELLULOSED

SPECIAL
END MEMBER

WHEN SCREEN IS REMOVED THE
CAPS FROM THE TOPS OF SUPPORTS
FILL HOLES IN FLOORING

EX 1" BEECH STRIP FLOORING

CYLINDER TO RECEIVE POST
WELDED TO 6" X 6" BASE PLATE

SPECIAL CLIPS AT
END SUPPORTS ONLY

SECTION

SCALES 1/4" = 1'0"
& QUARTER FULL SIZE



REMOVABLE SCREEN, SOUTHLANDS COLLEGE, WIMBLEDON
ARCHITECTS: YORKE, ROSENBERG & MARDALL



House designed for himself by Stefan Buzas, James Cubitt & Partners, A.R.I.B.A.

ZINC WEATHERINGS

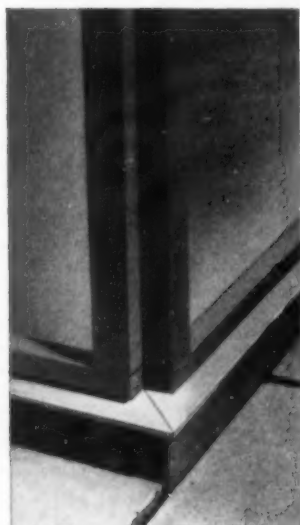
From roof to foundation, zinc has vitally important uses in contemporary building—for gutters, pipes, weatherings, flashings and hoods. In this striking house, all horizontal projections, as well as the verges to the flat roof, are provided with zinc weatherings.

For weatherings, zinc is unique because it is non-staining, rigid but still easily formed. And there are now no restrictions on its use. Supplies

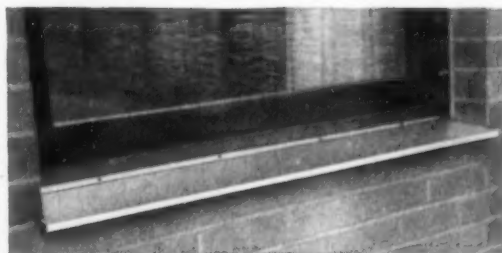
are plentiful, and likely to remain so. The price of zinc has dropped considerably, and it is now one of the cheapest permanent materials.

The Zinc Development Association is a non-trading body which is always prepared to give technical help to potential users. Publications, together with lists of stockists of all zinc building materials and of firms specialising in zinc work, are freely available.

THINK ZINC



Corner detail.



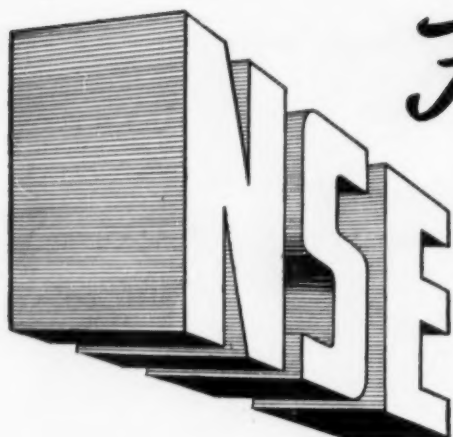
Window sill weathering.



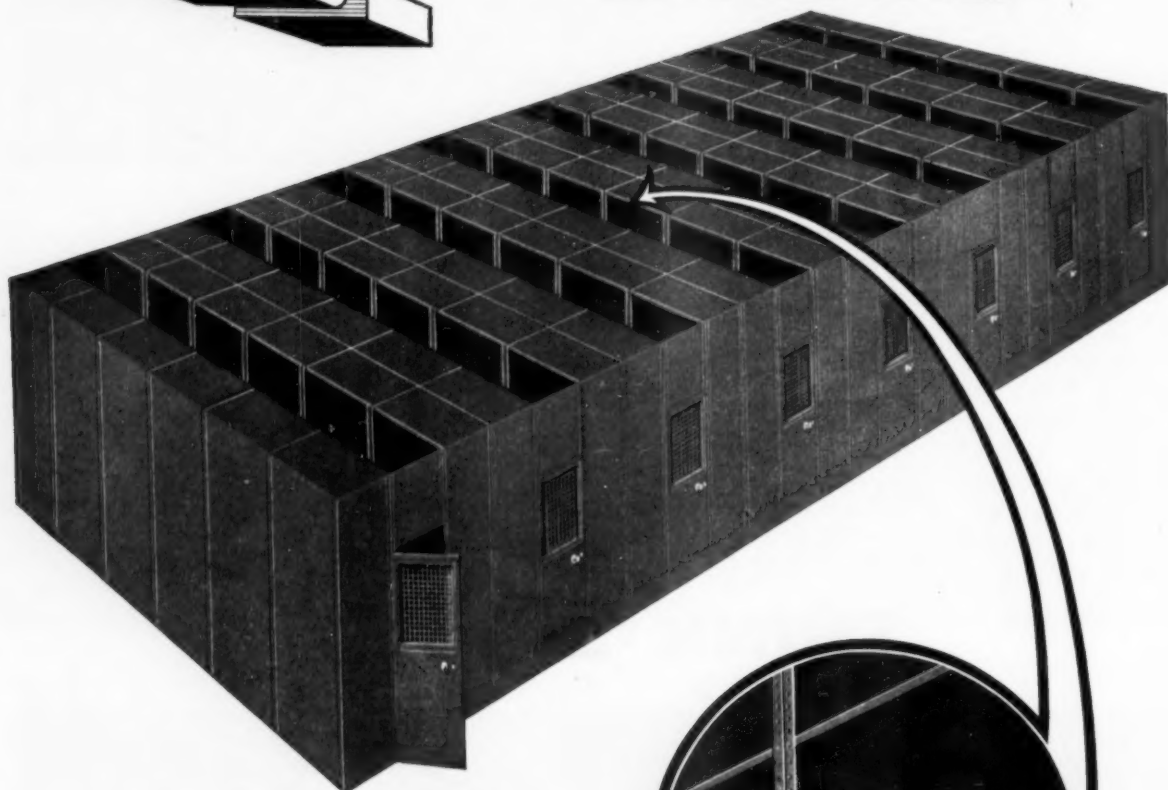
Detail of roof verge.



Detail of window head.



For every purpose -
the ideal
**STORAGE
UNITS**



The illustration shows a reproduction of a storage installation recently supplied and erected. Our Technical Staff will be pleased to submit plans to suit your particular need.

WE ARE
exhibiting at the
**THE TWENTIETH
BUILDING
TRADES
EXHIBITION**
OCT. 19 to 30 1954.
**CITY HALL
DEANSGATE
MANCHESTER**

Write for your copy of our new illustrated catalogue of office and industrial equipment.

Also makers of: STEEL PARTITIONING, SHELVING, BINNING, CUPBOARDS, LOCKERS, FILING CABINETS, DESKS, ETC.

Left: Detail of closed shelving fixed on both sides of gangway.

NORWOOD STEEL EQUIPMENT (LONDON) LIMITED

44 Norwood High Street, West Norwood, London, S.E.27.

Telephone: GIPsy Hill 1104/5/6.

CURRENT MARKET PRICES (Continued)

DRAINAGE GOOD—Continued

GULLEY PARTS—		4in	6in
Traps, high level, invert	25/-	65/6	each
Inlet, bellmouth pattern	16/-	24/6	do.
Do. with one vertical branch ..	23/6	38/-	do.
Do. with two	53/-	95/-	do.
Sealed cover, with felt washer ..	8/6	18/-	do.

RAINWATER SHOES		4in	6in
With vertical inlet and rebated top ..	28/6	76/-	each
Extension piece, 6in high	17/-	17/6	do.
Flat loose coated grating	3/6	4/-	do.
Loose solid coated cover	5/9	6/-	do.

MANHOLE CHANNELS, WHITE GLAZED—		4in	6in	9in
Each	15/-	21/3	36/3	
Straight, 2 feet long	25/-	25/-	37/6	
Taper, ditto	28/9	41/3	67/6	
Bends, main, half section	17/6	25/-	—	
Ditto, branch, ditto	25/-	38/9	—	
Ditto, ditto, three quarters, ditto ..	23/9	41/3	—	
Junctions, single	32/6	56/3	—	
Ditto, double	—	—	—	

BROWN GLAZED CHANNELS—
Based on standard list (less than 100 pieces)

		4in	6in	9in
Half-round main channel (2ft long) ..	2/8	3/11	7/-	
Extra for stop ends	2/8	3/11	7/-	
Extra for outlets	5/3	7/10	—	
Channel bends with splayed ends ..	7/10	11/8	—	
Three-quarter section do.	10/5	15/7	—	

MANHOLE COVERS—		Black	
24 × 18in Light foot traffic	33/6	each	
Do. Strong do.	48/6	do.	
Do. Light car traffic	102/-	do.	
Do. Road traffic	155/-	do.	

SUNDRIES—		Galvanized	
Manhole steps	8/6	each	
4in Mica valve fresh air inlets (L.C.C.)	23/-	do.	
Plumber's hemp	9/3	per lb.	
Gaskin, caulking	1/5½	do.	
Canvas backed hair felt, 4in wide	9d.	per ft run	

ROOFING MATERIALS

WELSH SLATES (delivered)—		Quantity	
		1,000 to	1 to
		1,999	499
		per 1,000	per 100
Sizes in inches	1976/6	240/-	31/6
22 × 11	1732/-	209/6	28/-
20 × 10	1254/-	151/6	20/-
18 × 10	807/6	97/6	13/-
16 × 8	711/6	86/-	11/3
14 × 4½	316/3	38/3	5/-

TILES (Broseley and Staffordshire)—		per 1,000	per 100
10½ × 6" Machine made	297/6	36/-	
Do., hand made, sand faced	354/6	43/-	
Hips, valleys and angles	31/-	per dozen	
		Per 1,000	Per 100
Plain concrete tiles	177/-	19/6	

Sheeting asbestos corrugated, 6in pitch (23 to 85 super yard lots)	6/8½	yard	
4½in × 16 gauge, drive screws (galvanized)	16/3	gross	
7½ × ½ hook bolts and nuts (do.)	52/6	do.	
Washers, round, flat, galvanized	4/9	do.	
Do. do. bituminous	2/-	do.	

ROOFING FELT—		1/- Yard Super	
Sanded bitumen felt (55lb)	1/6	Do.	
Ditto, but 75lb in weight	3/-	Do.	
Inodorous felt, best quality	2/4	Do.	
Ditto, second quality	1/8	Do.	
Underlining	1/8	Do.	
Sheathing	1/6 lb		
Galvanized felting nails	1/6 lb		

PRECAST CONCRETE LINTOLS—

1 : 2 : 4—½in material, finished with fair exposed faces, including all form-work and one ½in diameter mild steel rod reinforcement to each 4½in in width.

		Per foot lineal delivered to site.			
4½in × 6in	9in × 6in	9in × 9in	13½in × 9in.	18in × 9in	
4/-	6/-	7/8	9/6	11/6	

STONE

PER FOOT CUBE in random blocks not exceeding 20ft average in each.

BATH STONE F.O.R. SOUTH LAMBETH—

Monks Park 7/10 St. Aldhelm 8/10 Douling 8/4

STONE F.O.R. NINE ELMS—

Portland brown Whitbed 8/1½. Beer 8/-.

Over 20ft average cube blocks extra cost.

TIMBER

Softwood—sawn—random lengths.

		Per Standard	Per cubic foot
Carcassing quality	£100	12/1½	
Joinery quality	£120 and up	13/4	
Plain edged unsorted flooring,			
per square	½in 1in 1½in 1¾in	90/- 110/- 138/- 165/-	
½in insulating wall board (600 yards) 4/8 yard super.			
Larger quantities cost less, and smaller quantities more.			

SUNDRIES—		Dia.	3in	6in	9in
Black hexagon	½in	6d.	7½d.	10d.	
bolts, nuts and washers. Each	½in	10d.	1/-	1/3d.	
Sashline, hemp, good quality	½in	1/2d.	1/5d.	1/9d.	
Per Yard Run	No. 6	No. 8	No. 10		
	9d.	1/-	1/3		
Floor brads				64/-	per cwt
Cut Clasp Nails				65/-	per cwt
Steel ordinary screws	1" No. 8	2/7	2" No. 8	4/2	per
Brass, ditto	Do.	7/-	Do.	13/2	gross

HARDWOOD—

		Per ft super	Per
Prime	½in 1in	ft cube	
African mahogany	2/4	2/6	28/-
Honduras ditto	4/-	4/7	55/-
Portuguese Guinea ditto	3/1	3/3	36/-
African walnut	2/5	2/7	29/-
Australian ditto	5/6	5/10	65/-
English oak	4/3	4/6	50/-
Yugoslavian ditto	3/4	3/7	40/-
Burma and Siam Teak	5/-	5/9	65/-

DOORS.—STANDARD TYPE SOFTWOOD

Each in quantities 12 or more.

1½in finish, 4 horizontal panels moulded both sides, 6ft 6in high.

2' 3" wide 41/-

2' 6" do. 42/3

2' 9" do. 44/6

FLUSH DOORS 1½in thick, ply faced both sides, lipped edge.

All 6ft 6in high.

2' 3" wide 47/6

2' 6" do. 49/6

PANELLED DOORS:

see B.S. 459—Part 1.

FLUSH DOORS:—

see B.S. 459—Part 2.

2in (nominal) as last but upper panel prepared for glazing

2' 6" wide 59/-

2' 9" do. 62/-

2in (ditto) all as above but in

3 panels.

2' 6" wide 55/9

2' 9" do. 58/3

2in (ditto) all as above but in

2 panels.

2' 6" wide 51/3

2' 9" do. 53/6

IRONMONGERY

		2in	3in	4in	5in	6in
Cast iron Butts, per pair	10d.	1/3	2/-	3/9	5/4	
Hinges, spring, single						
action regulating, japanned, each	—	6/9	9/-	12/-	15/-	
Do. but double action						
spring only, each	—	12/-	15/6	22/9	27/9	
Do. blank only, each	—	5/6	10/6	12/9	16/6	

CURRENT MARKET PRICES (Continued)

IRONMONGERY—Continued

	12in	18in	24in	30in	36in
Tee hinges (japanned), per pair ..	2/-	3/10	—	—	—
Do. but stronger, per pair ..	3/4	6/1	8/3	—	—
Hook and Ride hinges, per pair ..	—	—	13/4	16/3	24/10
BOLTS—each—	3in	4in	6in	8in	10in
Cabinet, barrel, straight or necked ..	1/4	1/6	2/-	—	—
Square spring, with brass knob ..	1/3	1/6	2/-	—	—
Tower bolts ..	—	1/7	2/3	3/-	3/9
Barrel bolts ..	—	2/6	3/8	4/10	6/2
Add to Tower or Barrel bolts if necked ..	—	4½d	5½d	6½d	6½d
LOCKS—each					
Rim lock, 2 lever, wrot case brass bolt and bushing ..	11/9		Brass furniture ..	3/-	
			or Bakelite do.	3/1	
Mortice lock, 2 lever, bushed ..	15/8		Bakelite finger-plates ..	2/3	
			Brass furniture ..	7/-	
			or Bakelite do.	3/8	
Cylinder latches, japanned case ..				17/-	
Brass sash fastener ..				each	4/-
Casement fasteners (malleable) ..				do.	1/6
Do. stays (do.) ..				do.	2/-
Axle pulleys (brass face, iron wheel) ..				do.	3/7
Do. as last, but with brass wheel, 1½in ..				do.	4/8
Sash line, No. 8 Anchor yellow label ..				per yard	1/-

METAL GOODS

Basis—Rolled steel joists, all sections from 5" × 4½" to 16" × 6" inclusive (except 9" × 7", 10" × 8", 12" × 8" and 14" × 8") (over one ton) ..	£38/10/0	per ton
Extras—9" × 7" section ..	5/-	do.
4" × 4", 5" × 3", 10" × 8", 12" × 8", 14" × 8" and 16" × 8" to 20" × 7½" sections inclusive ..	10/-	do.
22" × 7" section ..	15/-	do.
4" × 2½", 4" × 3", and 24" × 7½" sections ..	20/-	do.
Steel angles and tees ..	£40/10/0	do.
Steel bars ..	£40/0/0	do.
Mild steel rods ½" diameter and upwards, cut to lengths within the usual margin and bent to normal schedules for reinforcement ..	52/-	per cwt
Extras per ton		
½in and ¾in diameter in size ..	27/-	per ton
¾in do. do. ..	27/-	do.
1in do. do. ..	34/6	do.
1½in do. do. ..	42/-	do.
2in do. do. ..	72/-	do.
2½in do. do. ..	102/-	do.
Extras for length		
5ft to 3ft ..	7/6	do.
3ft to 2ft ..	15/-	do.
2ft ..	22/6	do.
40ft to 45ft ..	15/-	do.
45ft to 50ft ..	22/6	do.
Bolts and nuts ..	85/-	per cwt
Trench covering, including trays 1½in deep and rebated frames, 9in wide ..	20/6	foot run
Do., but 12in wide ..	22/-	do.
Do., but 14in wide ..	24/-	do.
Do., but 18in wide ..	31/6	do.

METAL SUNDRIES

Cast iron pavement light filled with 4in × 3in glass lenses ..	40/-	per ft. super
½in wrought iron plate door in four panels with stiles and rails on both sides ..	45/-	do.
20 gauge galvanized iron trunking and straps ..	5/-	do.
24 gauge galvanized Talilboy 6ft high 9in diameter with 9in × 12in base ..	55/-	each.

CHAIN LINK FENCING—

In 25 yards lineal rolls inclusive of line wire.					
2in mesh.		Height in inches—			
	36	42	48	60	72
10½ wire gauge ..	88/6	103/3	118/-	147/3	176/9
12½ do. ..	62/3	72/6	83/-	103/9	124/6
14½ do. ..	44/6	51/9	59/3	74/-	89/-

DOUBLE SOOT DOORS AND FRAMES—

Fitted with brass turnbuckle and cast key ..	9in × 9in	12in × 9in	14in × 12in
	17/3	25/-	42/9

SLIDING DOORS, GATES AND PARTITIONS—

Factory sliding doors in two leaves containing about 100 square feet with mild steel angle frames covered with 24 gauge corrugated galvanized sheeting and including hanging tubular track and gear complete ..	14/-	foot super
Factory entrance gates with mild steel frames clad with 2in mesh chain link complete ..	11/-	do.
Steel partitioning, glazed (rough cast) and stove enamelled ..	17/-	do.

STEEL ROOF LIGHTS—

Lanterns with vertical sides, and hipped roof, glazed with ½in cast glass and lead flashed.	16/6	foot super
Skylights of similar construction (180ft super)	15/6	do.

HIGH GRADE DOMESTIC BOILERS

Coke fed. Performance 20 to 40 gallons raised from 40°F to 140°F per hour as under.

TYPE		£	s	d
20 gallons per hour	Plain cast iron black finish ..	7	3	3
15in wide, 23in high.	Ditto, in cream mottle finish including side jackets ..	10	3	6
25 gallons per hour	In cast iron as before and base plate ..	10	13	6
19in wide, 22in high	Ditto in cream mottle with side jackets and base ..	15	13	9
40 gallons per hour	In cast iron, etc. as last ditto ..	16	18	6
22in wide, 23in high	Ditto in cream mottle all as last ditto ..	22	18	0

GAS, WATER AND STEAM TUBES

(From Standard List.)

Internal Diameter—	½in & ¾in	1in	1½in	2in	2½in	3in	4in	5in	6in
Tubes .. per ft	4d	4½d	5½d	6½d	9½d	1/1	1/4½	1/1	1/10
Bends .. each	8d	9d	11d	1/2	1/7½	2/7	3/2	5/2	5/2
Elbows, sq. do.	10d	11d	1/1	1/3	1/6	2/2	2/7	4/3	4/3
Do., round do.	11d	1/1	1/2	1/5	1/8	2/4	2/10	4/8	4/8
Tees .. do.	1/-	1/1	1/3	1/7	1/10	2/6	3/1	5/1	5/1
Crosses .. do.	2/2	2/4	2/9	3/3	4/1	5/6	6/7	10/6	10/6
Backnuts .. do.	2d	2d	3d	3½d	5d	6d	8d	1/1	1/1
Sockets .. do.	3d	3d	4d	5d	6d	8d	10½d	1/3	1/3
Sockets, dimin. do.	4d	5d	6d	7d	9d	1/-	1/4	2/-	2/-

PERCENTAGES ON OR OFF ABOVE

In quantity and in random lengths.

	TUBE—		
Class A (light)	—20%	Black	+6%
Class B (medium)	—11%	Do.	+12½%
Class C (heavy)	+2½%	Do.	+20%
	FITTINGS		
Lightweight	+16%	Black	+25%
Heavy	+25%	Black	+30%
		Galvanized	Do.

RAINWATER GOODS (Painted or Unpainted)

In consignments of 3 cwt. and over.

From Standard List.

Pipe:	2in	3in	4in	5in	6in
6ft. lengths ..	each	10/8	12/6	16/5	21/5
3ft do. ..	do.	5/10	6/9	8/8	11/4½
Shoe, ordinary ..	do.	2/3	3/4	4/10	8/2
Bend ..	do.	2/8	3/9	5/5	9/9
Branch, single ..	do.	3/11	5/9	8/-	12/8
Offset, 4½in ..	do.	3/3	4/7	6/9	11/3
Do. 9in ..	do.	4/3	5/8	8/5	13/3
H.R. gutter, 6ft length ..	do.	—	5/3	7/4	9/-
Angle or nozzle ..	do.	—	2/2	2/8	3/3
Stop end ..	do.	—	8d	11d	1/4

Rainwater goods plus 10% at foot of invoice.



This symbol is used only
by members of the Metal
Window Association. The
Association consists of

manufacturers who have, for many years, been
improving the design and finish, and reducing
the cost of metal windows.

The work of the Association protects the
interests of all those who specify and use their
products.

THE METAL WINDOW ASSOCIATION

BURWOOD HOUSE, CAXTON STREET, LONDON, S.W.1.



BY APPOINTMENT MAKERS OF SAFES
TO THE LATE KING GEORGE VI

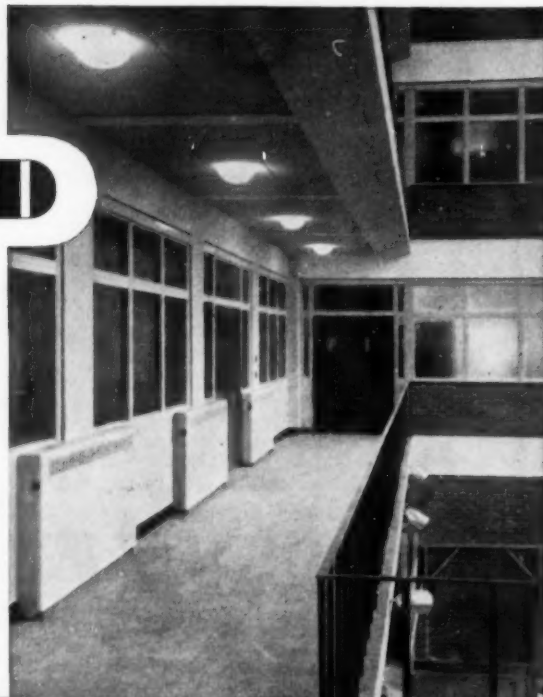
CHATWOOD

flush surface steel partitions

A product embodying all the enduring quality which has made Chatwood security equipment respected throughout the world for a hundred years.

The new Chatwood partitioning emphasises the features of easy erection and dismantling: unit construction, with flush surfaces; extreme dimensional adaptability, making it the ideal medium for space division; stove enamelled finish in customer's colour scheme—and the Chatwood ideal of Quality First.

Supplied to leading architects, companies and corporations.



Part of a Bristol Aeroplane Company installation is illustrated.

THE CHATWOOD SAFE AND ENGINEERING CO. LTD

Steel Partitioning Division: 3 Laurence Pountney Hill, London, E.C.4

Head Office: Shrewsbury, England. Branch Offices: Royal Exchange Arcade, Manchester 2, and 26 West Nile Street, Glasgow, C.1



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fully qualified for the correct interpretation of architects' cloakroom needs and specifications.

A section of our brochure contains a selection of typical installations intended as a guide to the general needs of architects.

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**WE
FABRICATE
AND ERECT**



CLOAKROOM EQUIPMENT LTD.
STATION ST • BROMSGROVE • WORCESTER.
TELEPHONE: BROMSGROVE 2962.

CW 1856/2

CURRENT MARKET PRICES (Continued)

PLASTERING MATERIALS

Sand, lime, cement and various plasters are previously included under those heads—			
Metal lathing ($\frac{1}{8}'' \times 24G.$) (20 yds.) ..	3/3	sq yard	
Plaster baseboard, $\frac{1}{2}''$ (600 yards) ..	2/2	do.	
Lath nails, galvanized ..	1/1	lb	
White glazed tiles ($6'' \times 6'' \times \frac{1}{4}''$) ..	17/9	sq yard	
Do. rounded on one edge } small	21/3	do.	
Do. on two adjoining edges } quantity	26/-	do.	

PLUMBER'S GOODS

4 lb lead sheet (in 1-ton lots) ..	133/-	per cwt
Lead water pipe in coils (do.) ..	134/3	do.
Plumber's solder ..	3/4	lb.
Copper tacks ..	5/6	do.

IRON SOIL AND WASTE PIPE. (Standard List)

each	2in	3in	3½in	4in
$\frac{1}{2}$ in Medium pipe, 6ft lengths ..	12/7	14/11	16/9	19/1
Ditto, 4ft length ..	9/0½	10/7½	11/10	13/4½
Bends ..	4/8	5/8	7/-	7/11
Ditto, with oval door ..	15/2	16/2	18/3	19/2
Junction, single ..	5/8	8/5	9/9	11/6
Ditto, with oval door ..	16/2	18/11	21/-	22/6
Swan necks, 4½in ..	5/8	8/11	10/3	11/11
Ditto, 9in ..	7/6	10/3	11/11	14/-
Holderbat, 2½in projection ..	4/8	4/10	5/1	5/2

All plus 10% added at foot of invoice

GALVANIZED CISTERNS, TANKS AND CYLINDERS—(Less than four)

each	gallons			
	Nominal capacity			
Bends over tops and corner plates. Riveted or welded	100	150	200	300
14 gauge ..	164/-	223/-	270/-	387/-
12 ditto ..	190/-	241/-	298/-	416/-
½in plate ..	225/-	283/-	335/-	476/6

HOT WATER TANKS—

Riveted and with handhole and ring.	20	25	30	40
12 gauge ..	113/-	125/6	137/-	164/-
½in plate ..	126/-	137/-	149/-	182/-

HOT WATER CYLINDERS—

Riveted, with handhole and ring.	20	25	33	39
12 gauge ..	144/-	161/-	175/-	187/-
½in plate ..	161/-	179/-	195/-	208/-

PLUMBER'S BRASSWORK, etc.

	Each			
	½in	¾in	1in	1½in
Boiler screws, single nut ..	1/5	1/10	2/9	4/6
Ditto double nut ..	1/10	2/6	4/3	6/3
Cap and lining ..	1/-	1/6	2/-	2/3
Plumber's unions ..	2/3	3/-	4/-	6/6
Ball valves, screwed iron ..	11/6	19/6	—	—
Ditto, fly nut and union ..	13/-	22/-	—	—
Bib valves, crutch top screwed iron ..	8/-	12/-	—	—
Ditto, but screwed boss ..	10/6	13/6	—	—
Stop valves, screwed iron ..	7/6	10/6	—	—
Ditto, screwed iron and union ..	8/9	13/-	23/6	—
Ditto, double union ..	9/9	15/9	26/-	—
Waste, plug chain and stay ..	—	—	6/-	6/6
Caps and screws ..	1½in	1½in	2in	4in
Sleeves, long ..	2/9	3/-	5/-	—
Ditto, short ..	—	3/2	4/3	6/9
Thimble ..	—	4/-	5/-	10/7
Full way gate valves, hot pressed ..	17/6	24/3	—	—
Lead 7 lb. P. trap ..	—	1½in	1½in	2in
Ditto, S. trap ..	—	6/5	8/5	11/10
Lead 6 lb. P. traps with 3in seal ..	—	7/10	10/4	14/6
Ditto, but S. traps ditto ..	—	7/2	8/8	—
Wire ballon guards, copper, 2in 3-; 4in 3/3.	—	8/11	10/10	—
Ditto, galvanized iron, 2in 1/10; 4in 2/-.	—	—	—	—
Hair felt, 34in x 20in, 24 oz., 6/- sheet.	—	—	—	—
Boss white jointing compound, 2/- lb.	—	—	—	—
Gaskin, 1/5½ lb. Hemp, 9/3 lb.	—	—	—	—

COPPER TUBES—Extract from B.S. 659/1944—

Nominal bore	Outside diameter	Gauge	Weight lb per ft	Price per lb pence	Price per ft pence
½in	0.596	19	0.27	40½	10.84
¾in	0.846	19	0.39	38½	15.07
1in	1.112	18	0.62	37½	23.03
1½in	1.362	18	0.76	36½	27.84
2in	1.612	18	0.91	36½	33.34
2½in	2.128	17	1.40	38½	53.39

CAPILLARY TYPE CONNECTIONS—

All ends copper to copper.						
Each	½in	¾in	1in	1½in	2in	2½in
Straight ..	1/8	2/4	3/8	4/10	6/6	9/4
Bends ..	4/4	5/4	7/8	10/6	16/6	23/2
Tees ..	4/-	4/8	7/6	11/-	15/8	23/2
Brackets (Brass) ..	2/1	2/3	2/6	—	—	—

GLASS

	Per foot superficial		
	24 oz.	26 oz.	32 oz.
English, flat drawn sheet glass cut to sizes in squares ..	7½d.	9½d.	1/-
Figured rolled and cathedral, white, cut to sizes, in squares (½in) ..	9d.	Per foot super	
Ditto, but in standard tints ..	1/4½	Do.	
½in Rolled, cut to size, in squares ..	9d.	Do.	
½in or ¾in rough cast ditto ..	1/-	Do.	
½in Ditto wired ditto ..	1/2	Do.	
Georgian wired ditto ..	1/2½	Do.	
Fluted (No. 4) ditto ..	1/1½	Do.	
Reeded (narrow, broad, cross and major) ditto ..	1/1	Do.	
Reedlyte (narrow and broad) ditto ..	1/1	Do.	
Spotlyte ditto ..	1/1	Do.	
½in Calorexcast ditto ..	1/2½	Do.	

Each

3½in hollow glass light diffusing blocks ..	5½" x 5½"	7½" x 7½"
Ditto corner blocks ..	2/9	4/2
	5/3	6/9

POLISHED PLATE GLASS (Tariff). Cut to sizes.

Ordinary substance approximately ½in thick.			
Per superficial foot.	General Glazing	Selected Glazing	Silvering
In plates not exceeding:			
2ft super in each ..	3/7	4/3	5/1
5ft ditto ..	4/5	5/2	6/2
45ft ditto (unless extra sizes) ..	5/1	5/9	6/11
100ft ditto (ditto) ..	5/6	6/9	8/10
Extra sizes, i.e., Plates exceeding 100ft super or 96in high or 160in wide at higher prices.			

DECORATING MATERIAL

	Price	Unit
Aluminium Paint ..	37/6	Gallon
Distemper, ceiling ..	35/-	Cwt
Distemper, washable ..	120/-	do.
Enamel ..	60/-	Gallon
Gold Metallic Paint ..	86/6	do.
Heat Resisting Paint ..	50/-	do.
Japan, black ..	23/6	do.
Knotting ..	37/-	do.
Linseed Oil ..	11/6	do.
Boiled, ditto ..	12/-	do.
Proprietary Paints (good class)—		
Finishing ..	47/-	do.
Priming ..	50/-	do.
Undercoat ..	53/-	do.
Paperhanger's Paste ..	34/6	Cwt
Petrifying liquid ..	8/9	Gallon
Putty ..	47/-	Cwt
Size ..	9/3	Firkin
Terebinte ..	16/-	Gallon
Turpentine substitute ..	6/2	do.
Varnish, oak, copal, inside use ..	33/-	do.
Ditto, ditto, outside use ..	38/-	do.
Ditto, white, eggshell, flat ..	44/6	do.
White lead mixed paint ..	58/-	do.
White lead ..	170/-	Cwt
Whiting ..	12/6	Cwt

MOSAICS

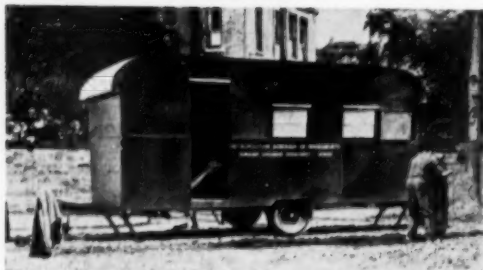
SERVICES

SPACE HEATING

B3/55

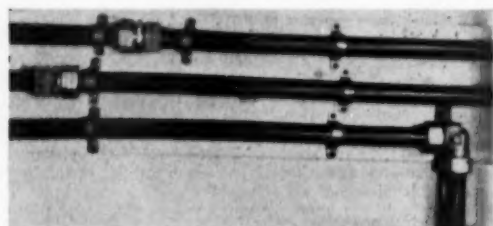


The gas industry has recognized for many years the importance of convector gas fires. The Portacell Bumburg is the outcome of suggestions made by the Northern Gas Board on whose area the demand for larger capacity domestic space heaters is marked. The makers, Bratt Colbran Limited, have worked in collaboration with the Board's Appliance Laboratory at Newcastle-on-Tyne in achieving the final design, as illustrated, and the fire is now on the Gas Council's list of tested and approved appliances.



An industrial trailer made by Alperson Products Ltd., of Newmarket, England, manufacturers of industrial trailers suitable for use on building sites. Prices range from about £200 up to £500 depending upon the equipment included. These trailers can be towed by only 12 h.p. vehicles. Internal fittings can include a toilet compartment with sink and made suitable for habitation.

Distribution of cold water supplies to houses can now be made through a new lightweight non-metallic pipe called Marleythene. It is a thermoplastic tubing with many advantages when used for domestic plumbing. The tube resists corrosion and erosion by all types of soil and water, and is unaffected by acids or alkalis, or contact with building material. A non-conductor of electricity, it remains undamaged by stray electric currents. It is resilient and so is completely immune to frost no matter how severely or how often the water it contains is frozen. Most of the jointing required can be made almost invisibly. The tube softens with heat. This simplifies jointing and manipulation, but makes it unsuitable for use with hot water. But it may be used for waste pipes where internal pressure cannot be built up. By The Marley Tile Company Limited, Stifford Road, Crays, Tilbury.



SERVICES

PLUMBING

B4/24



FITTINGS

ELECTRIC COOKERS

C1/16

A new Time Control Unit which can be pre-set to enable any existing make of electric cooker to operate automatically within 12 hours of setting, and then switch off after the desired cooking period, has just been marketed by Metalform Ltd., of 258 Grays Inn Road, W.C.1. The unit, which comprises an ordinary electric clock with a time-switch mechanism is housed in brown and cream stove-enamelled box supplied for either flush or surface wall mounting. When not required the timing mechanism can be cut out and the cooker controlled in the

usual way by means of the isolator switch fitted to the unit. A red signal lamp is illuminated when the cooker is in use. An additional feature is the provision of a 13-amp socket outlet with a fused switch plug for an electric kettle or other appliance.

TRAINING COURSES IN

CONCRETE PRACTICE

THIS autumn will see the inauguration of a new phase in the development of building practice—the award of an officially recognized certificate of proficiency for concrete supervisors and foremen, which is being offered by the City and Guilds of London Institute. At the suggestion of the Reinforced Concrete Association, the Institute set up a committee representing all sides of the building industry, to prepare a syllabus of courses preparatory to the certificate examination, and these courses are now being organized in Technical Schools and Colleges all over the country.

So far 36 Technical Colleges have announced their intention of offering the courses, which will consist of two-hourly sessions held weekly for 24 weeks, during the September-May period.

The City and Guilds of London Institute will hold its examinations in May, 1955, after which successful candidates will be awarded the City and Guilds' Certificate in Concrete Practice (Grade 1). Prizes are also being offered by the Reinforced Concrete Association and the Prestressed Concrete Development Group.

The syllabus includes both lectures and practical work, and covers the following subjects: concrete materials (properties, storage, tests, etc.), proportioning and batching, the use and care of machinery, placing, compaction, curing, tests on concrete, formwork, reinforcement, prestressed concrete and the manufacture of precast products.

Application for places should be made direct to the Colleges. Those offering the course are: *Birmingham*: College of Technology. *Bridgend*: Technical College. *Bristol*: College of Technology. *Brixton*: School of Building. *Bromley*: College of Art. *Burton-on-Trent*: Technical College. *Cardiff*: College of Technology and Commerce. *Coventry*: Technical College. *Croydon*: Polytechnic. *Dagenham*: South East Essex Technical College and School of Art. *Derby*: Technical College. *East Ham*: Technical College. *Edinburgh*: Heriot-Watt College. *Falkirk*: County Trades School. *Hammersmith*: School of Building. *Hereford*: College of Further Education. *Huddersfield*: Technical College. *King's Lynn*: Technical College. *Lancaster*: Lancaster and Morecambe College of Further Education. *Liverpool*: College of Building. *Maidstone*: Technical College. *Newcastle-upon-Tyne*: Rutherford College of Technology. *Newport*, *Isle of Wight*: Technical College. *Nottingham*: Nottingham and District Technical College. *Plymouth*: Technical College. *Scunthorpe*: North Lindsey Technical College. *Sheffield*: College of Commerce and Technology. *Southend-on-Sea*: Municipal College. *Southampton*: Technical College. *Stroud*: Stroud and District Technical College. *Sydenham*: South East London Technical College. *Twickenham*: Technical College. *Willesden*: Technical College. *Wolverhampton*: Wolverhampton and Staffordshire Technical College. *York*: Technical College.

Employers and trainees are invited to write direct to the Colleges for the detailed syllabus, dates of commencement of courses, and any other information they may require.

Notes below give basic data of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the

CONTRACT • NEWS •

address it is the same as the locality given in the heading, (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked ★ are given in the advertisement section.

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OPEN BUILDING

ALTRINCHAM B.C. (a) Depot for the Public Health Department, comprising garage, offices and messroom. (b) Borough Surveyor, Town Hall. (c) £5. (e) Sept. 25.

BILLERICAY U.C. (a) Block of 3 shops and 3 maisonettes, Kathleen Ferrier Crescent, Pound Lane, Laindon. (b) Council's Surveyor, Council Offices, 108, High Street. (c) 2gns. (d) Sept. 18.

BIRMINGHAM C.C. (a) 2- and 3-storey building comprising 16 shops, 18 flats and office accommodation, Bell Lane, Tile Cross. (b) City Architect, Civic Centre, 1. (d) Sept. 20. (e) Oct. 27.

BIRMINGHAM C.C. (a) Dressing rooms and public conveniences, Gressel Lane Recreation Ground, Shard End Estate. (b) General Manager, Parks Department, Civic Centre, 1. (c) 2gns. (e) Sept. 22.

BROMSGROVE R.C. (a) 2 pairs of houses and 1 pair of old people's bungalows, Rowney Green Housing Estate, Alvechurch. (b) H. T. W. Gough, 45, Newhall Street, Birmingham 3. (c) 2gns. (e) Sept. 20.

BUCKS C.C. (a) Nurses' homes and child welfare centre, Marlow. (b) County Architect, County Offices, Aylesbury. (c) 2gns. (d) Sept. 10. (e) Oct. 11.

CARDIGANSHIRE C.C. (a) A family unit home at Alltbylacca, near Llanybyther. (b) County Architect, County Hall, Aberayron. (c) 1gn. (e) Sept. 27.

CHAILEY R.C. (a) 12 dwellings, South Road, Ditchling. (b) Surveyor, Council Offices, Lewes Road, Lewes. (c) 2gns. (e) Sept. 18.

CHIGWELL U.C. (a) Extensive repairs and improvements to 32 houses at Goldings Road, Loughton, and 24 houses at Brook Road, Buckhurst Hill. (b) Messrs. Tooley and Foster, Midland Bank Chambers, Buckhurst Hill. (d) Sept. 17.

CONGLETON B.C. (a) 6 shops, 8 flats and 14 maisonettes, Bromley Farm (No. 3) Housing Estate. (b) Borough Engineer, Town Hall. (c) 2gns. (e) Sept. 25.

CROYDON B.C. (a) Conversion and redecoration of a house in Bedwardine Road, Upper Norwood. (b) Borough Engineer, Town Hall. (e) Oct. 4.

CUMBERLAND C.C. (a) Conversion of an existing byre to provide a fire station, Bootle, near Millom. (b) County Architect, 15, Portland Square, Carlisle. (e) Sept. 20.

ESSEX C.C. (a) Erection of Dovercourt Hill Secondary School, Harwich. (b) County Architect, County Hall, Chelmsford. (d) Sept. 14.

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FEATHERSTONE U.C. (a) Adaptation of Purston Hall, as Council Offices. (b) Clerk of the Council, Council Offices, Featherstone, Yorks. (c) 2gns. (d) Sept. 20.

FLINTSHIRE C.C. (a) New secondary modern school, Prestatyn, to accommodate 450 pupils. (b) County Architect, Llywnegrin, Mold. (c) £2. (e) Sept. 27.

HAMPSHIRE C.C. (a) Alterations and additions to Hythe County Primary School, near Southampton. (b) County Architect, The Castle, Winchester. (d) Sept. 11.

HAVERFORDWEST B.C. (a) 101 houses, City Road Housing Estate, in two groups of 50 and 51. (b) Borough Surveyor, Pictou House. (c) £2. (e) Sept. 17.

HOLYWELL U.C. (a) Pair of 4-bedroom houses, Fron Park Road. (d) F. E. G. Gray, Engineer and Surveyor, Town Hall. (c) 2gns. (e) Sept. 22.

HULL. (a) Proposed new hostel for the Y.W.C.A. at Welbourne Avenue. (b) Messrs. Elsworth Sykes and Partners, Ruskin Chambers, Scale Lane, Hull. (c) Sept. 21.

LEEDS REGIONAL HOSPITAL BOARD. (a) Adaptations to second floor at St. Thomas's Hospital, Scarborough. (b) Architect to the Board, Park Parade, Harrogate. (c) 2gns. (e) Sept. 29.

LIVERPOOL C.C. (a) Alterations and additions to form additional classroom at Sandheys, Holly Lodge High School for Girls. (b) City Architect, Blackburn Chambers, Dale Street, Kingsway, 2. (c) 2gns. (e) Sept. 18.

LONDON—EALING B.C. (a) Slipper baths and laundry, South Ealing. (b) Borough Engineer, Town Hall, W.5. (c) £2. (e) Sept. 27.

LONDON—ISLINGTON B.C. (a) One 4-storey block of 15 dwellings, Tollington Park (Sedgley House Extension), N.4. (b) Town Clerk, Town Hall, Upper Street, N.1. (c) 3gns. (d) Sept. 14. (e) Oct. 18.

LUTON B.C. (a) One 2-storey block of 14 flats, Bailey Street/Park Street junction. (b) Borough Engineer, Town Hall. (c) 2gns. (e) Sept. 30.

NEWTON ABBOT U.C. (a) 10 flats and 4 shops in one 3-storey block with basements, 11 old people's bungalows and 18 garages in 3 separate blocks, Buckland Housing Estate. (b) C. Lunn, 18, Devon Square. (c) 5gns. (d) Sept. 15.

NORTH EAST SOMERSET HOSPITAL MANAGEMENT COMMITTEE. (a) Adaptation of front block at Wells Infirmary for an additional 40 beds. (b) H. H. Goldsmith, 18, Gay Street, Bath. (d) Sept. 16.

N. IRELAND—DOWN C.C. (a) Conversion of premises into a caretaker's house at 65, University Street, Belfast. (b) County Planning Officer, Courthouse, Downpatrick. (3) 3gns. (e) Sept. 17.

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N. IRELAND HOSPITALS AUTHORITY. (a) Bungalow at Fermagh County Hospital. (b) Messrs. W. H. McAlister and J. Tomlinson, 6, Market Street, Omagh, Tyrone. (c) 3gns. (e) Sept. 27.

N. IRELAND — NEWTOWNARDS B.C. (a) 21 houses and construction of various site works, Queen's Square. (b) Town Clerk, Town Hall. (c) £3. (e) Sept. 21.

NOTTINGHAM C.C. (a) Highbank Infants' School, Clifton. (b) City Engineer, Exchange Buildings. (c) £2. (e) Sept. 21.

OXFORDSHIRE C.C. (a) New C.P. School, Yarnton, and additions to County Junior School, Kidlington. (b) County Architect, Park End Street Offices, Oxford. (e) Oct. 6.

PENRITH U.C. (a) 36 dwelling houses, Scaws Housing Estate. (b) Engineer and Surveyor, Town Hall. (c) 2gns.

St. HELENS B.C. (a) 2 senior police officers' houses, Prescott Road/Kings Road. (b) Borough Engineer, Town Hall. (c) 2gns. (e) Sept. 21.

SCOTLAND—EDINBURGH C.C. (a) Block of 6 shops and 6 maisonettes, Hyvots Bank Housing Development (all trades). (b) City Architect, City Chambers, 1. (e) Sept. 17.

SCOTLAND—WIGTOWN C.C. (a) (1) 34 houses, Kirkcowan; (2) 50 houses, Dunragit (all trades). (b) County Architect, 23, Lewis Street, Stranraer.

SELBY U.C. (a) Block of 6 shops with flats over, 13 garages; Stainer Wood Estate. (b) Messrs. Blenkinsopp and Thompson, Clifton Chambers, Park Street. (c) 2gns. (e) Oct. 2.

SOUTH DEVON WATER BOARD. (a) Detached residence at Higher Warren Road, Kingsbridge. (b) Clerk to the Board, Churston House, Kingsbridge. (c) 2gns. (d) Sept. 13.

SOUTHPORT B.C. (a) Structural alterations and repair work at Café and other buildings at Ainsdale Lido. (b) Borough Architect, 93-105, Lord Street. (c) 1gn. (e) Sept. 22.

STANLEY U.C. (a) 20 3-bedroom houses; (whole or separate trades). (b) Engineer and Surveyor, Council Offices, Coach Road, Outwood. (c) 2gns. (e) Sept. 18.

WEST RIDING C.C. (a) Pair of police houses at Sheffield Road, Birdwell, and 1 pair of police houses at Dale Road, Rawmarsh. (b) County Architect, "Bishopgarth," Westfield Road, Wakefield. (c) 2gns. (e) Oct. 1.

WORCESTERSHIRE C.C. (a) Development of the County High School, Redditch. (b) L. G. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester. (d) Sept. 13.

WREXHAM B.C. (a) 80 dwellings, etc., Queen's Park Estate, Southern Area, Section 7. (b) Borough Engineer, 31, Chester Street. (c) 3gns. (e) Sept. 27.

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PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

LEEDS. (1) Four-storey office block for Shell-Mex and B.P., Ltd. (N.E. Division). (2) Eastgate. (3) Tersons, Ltd., 4, Dollis Park, London, N.3.

HARLOW NEW TOWN. (1) Factory, for Greaves and Thomas, Ltd., London, E.5. (2) Industrial Estate site. (3) W. and C. French, Ltd., Buckhurst Hill, Essex. (4) £240,000. (1) Extension to factory for Revertex, Ltd. (3) W. and C. French, Ltd.

PLYMOUTH CORPORATION. (1) 299 houses. (2) Chaucer Vale. (3) John Laing and Son, Ltd., London, N.W.7. (4) £396,291. (1) 90 dwellings. (3) Selleck Nicholls and Co., Ltd., St. Austell, Cornwall. (4) £119,838. (1) 24 flats. (2) Stonehouse North. (3) Pearn Bros., Ltd., Radnor Street, Plymouth. (4) £46,895.

BRISTOL CITY COUNCIL. (1) 104 dwellings. (2) Withywood Estate. (3) Geo. Wimpey and Co., Ltd., Hammer-smith, W.6. (4) £146,902.

GT. YARMOUTH B.C. (1) 69 dwellings. (2) Tollhouse Street. (3) H. A. Holmes and Sons, Ltd., Bath Hill Terrace, Gt. Yarmouth. (4) £91,933.

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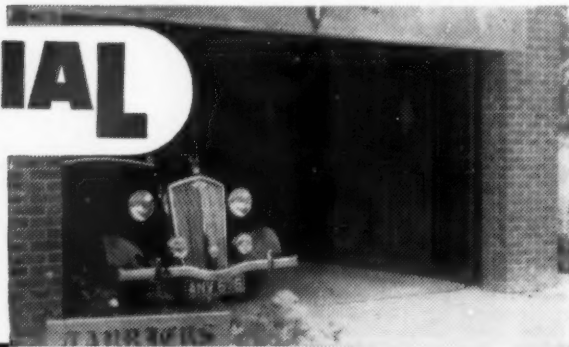
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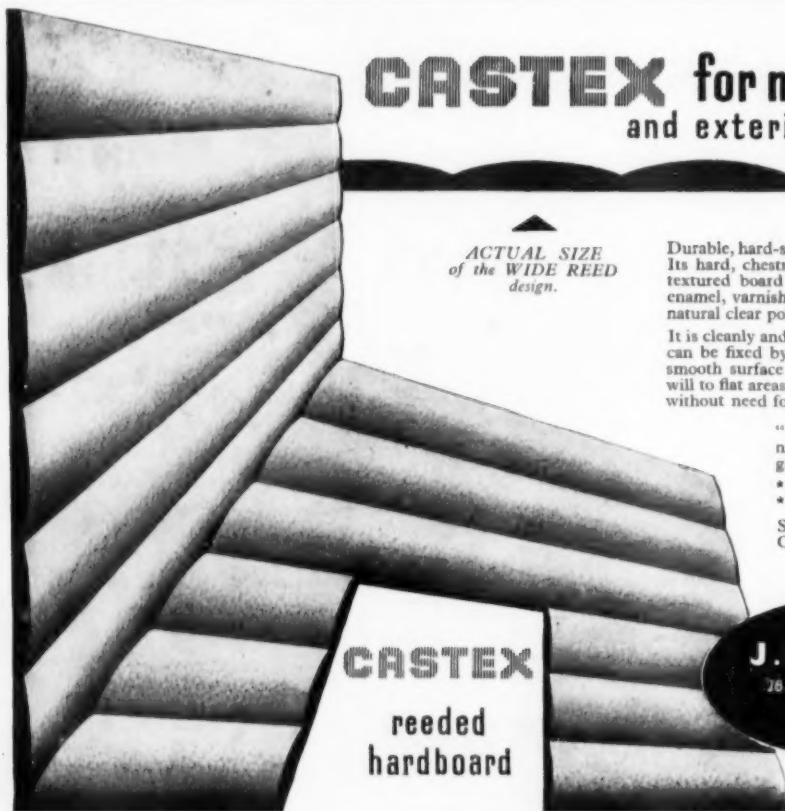
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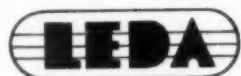
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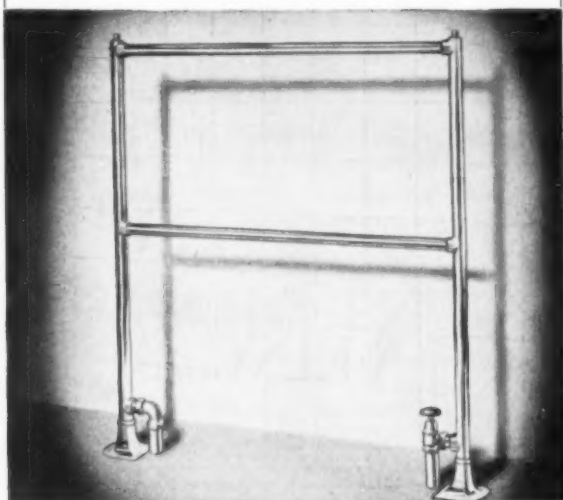
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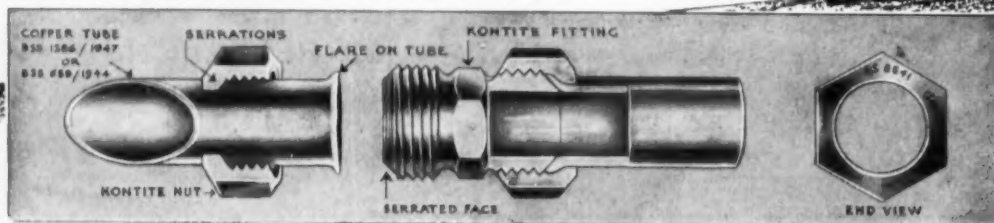


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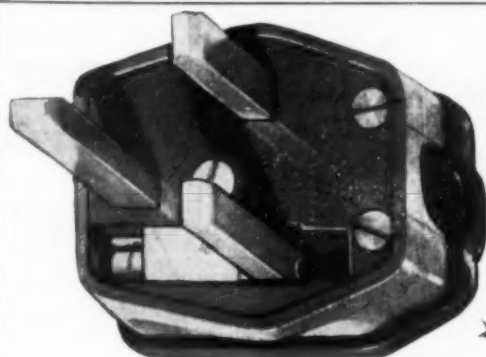
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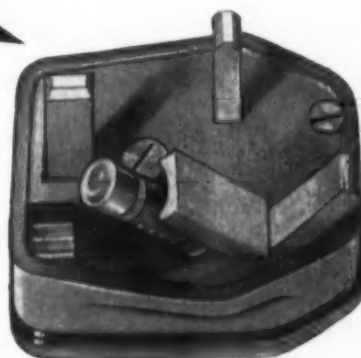
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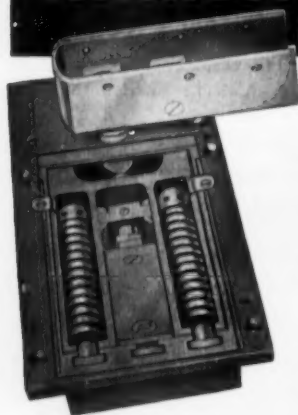
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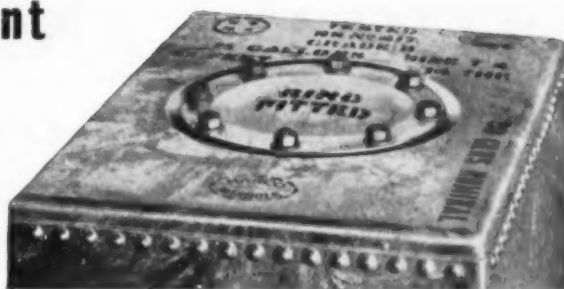
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This is achieved by securing the heads of the bolts inside the tank, so that the screwed portion projects outside.

No hemp, red lead or other jointing material is required when fixing the cover, other than the India Rubber Ring which is supplied with the tank.



This ring, together with the grumets fitted under the bolt heads inside the tank, enables a perfect seal to be made in much less time.

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APPOINTMENTS

The engagement of persons answering these advertisements must be made through the local office of the Ministry of Labour and National Service, etc., if the applicant is a man aged 16-64 or a woman aged 16-59 inclusive, unless he or she or the employer is exempted from the provisions of The Notification of Vacancies Order, 1952.

GOVERNMENT OF NORTHERN IRELAND.

MINISTER OF FINANCE—DIRECTORATE OF WORKS.

ARCHITECTURAL ASSISTANTS.

APPLICATIONS are invited from Architectural Assistants with recognised training and fair experience for unestablished posts in the Chief Architect's Branch. The employment will provide useful experience for those seeking to obtain professional qualifications. Successful candidates will be eligible for consideration for permanent and pensionable posts as vacancies arise and for promotion to a higher grade on their obtaining full professional qualifications.

The inclusive annual salary scale is £400 rising to £670. The starting pay of candidates who have passed the R.I.B.A. Intermediate Examination will be £505. Entry points for other candidates will be fixed in relation to their ages, e.g., £400 at age 21 to £480 at age 25 or over.

Preference will be given to candidates who served in H.M. Forces in the 1914-18 or 1939-45 wars, provided that such candidates are, or within a reasonable time will be, able to discharge the duties efficiently.

Candidates who are invited to attend for interview will be repouced cost of railway and steamer fare at minimum rates.

Applications, giving date of birth and full details of training and qualifications, should be sent to the Director of Establishments, Ministry of Finance, Stormont, Belfast. [8262]

WORCESTERSHIRE COUNTY COUNCIL.

COUNTY ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for two posts of SENIOR ASSISTANT ARCHITECTS, Grade A.P.T. VI (£695-£760) on the permanent staff, dealing with major building works. Experience in Local Authority work will be an advantage.

Application forms may be obtained from L. C. Lomas, F.R.I.B.A., County Architect, 14, Castle Street, Worcester. (R.121.) [8293]

EDINBURGH COLLEGE OF ART.

APPLICATIONS are invited for the post of LABORATORY DEMONSTRATOR in the School of Architecture. The duties of the Laboratory Demonstrator will be to take charge of the Building Materials Section, to demonstrate strength and use of materials and to carry out such other duties as may be assigned to him. Experience in the building trade is desirable, but not essential. Salary scale £450-£520-£550 per annum.

Forms of application and conditions of appointment can be obtained from the Secretary, Edinburgh College of Art, Edinburgh, 3, and should be returned to him not later than 17th September, 1954. [8297]

COUNTY BOROUGH OF WEST BROMWICH

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

APPLICATIONS are invited for the following permanent appointments:—

- (a) SENIOR ASSISTANT ARCHITECT, Grade A.P.T. VII (£735-£810).
- (b) ASSISTANT ARCHITECT, Grade A.P.T. V (£620-£670).
- (c) ARCHITECTURAL ASSISTANT, Grade A.P.T. IV (£580-£625).

N.J.C. Conditions of Service. Applications, naming two referees, to Borough Surveyor, Town Hall, West Bromwich, by 16th September, 1954. [8301]

APPOINTMENTS—contd.

LONDON COUNTY COUNCIL.

ARCHITECT'S DEPARTMENT

VACANCIES for ARCHITECTS, Grade III (up to £892 10s), and ARCHITECTURAL ASSISTANTS (up to £739 10s) in Schools and Housing Divisions. Particulars and application forms from Architect (AR/EK/A/3), County Hall, S.E.1. (1058.) [0146]

AIR MINISTRY require in London, Provinces and overseas ARCHITECTURAL ASSISTANTS in Works Department Design Branch experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings. Salaries up to £780 p.a. for men, £665 for women. Starting pay dependent upon age, qualifications and experience. Extra duty allowance or overtime payable. Promotion prospects. Posts non-pensionable with long-term possibilities. Natural born British subjects only. Write stating age, qualifications, employment details including type of work done to Ministry of Labour, 236, Walworth Road, London, S.E.17, quoting Order 81AD. [8307]

CITY OF BIRMINGHAM.

CITY ARCHITECT'S DEPARTMENT.

APPLICATIONS are invited for the following appointments:—

- (a) QUANTITY SURVEYOR—Grade A.P.T. VIII (£785-£860 per annum).
- (b) ASSISTANT QUANTITY SURVEYORS—Grade A.P.T. VI (£695-£760 per annum).
- (c) ASSISTANT QUANTITY SURVEYOR—Grade A.P.T. V (£620-£670 per annum).
- (d) ASSISTANT QUANTITY SURVEYORS—Grade A.P.T. II (£520-£565 per annum).

For appointments (a), (b), (c) Applicants must be Associate Members of the Royal Institute of Chartered Surveyors (Quantity Section) or hold an equivalent qualification and, in addition, for (a) have had extensive experience in a Quantity Surveyor's office.

(d) Applicants must have passed the Intermediate Examination of the R.I.C.S. (Quantity Section) or hold an equivalent qualification.

The posts are permanent, superannuable, subject to a medical examination and to one month's notice on either side.

Applications, endorsed with the heading of the post, stating age, qualifications and experience, together with the names of two persons to whom reference can be made, should reach the undersigned not later than September 20th, 1954. Canvassing disqualifies.

A. G. SHEPPARD FIDLER, City Architect.

Civic Centre, Birmingham, 1. [8308]

CITY ARCHITECT'S DEPARTMENT, EDINBURGH.

APPLICATIONS are invited for the undernoted posts:—

- (1) ARCHITECTURAL ASSISTANT, fully qualified by examination. Salary Scale A.P.T. Va, £660-£720-£720 per annum.
- (2) ARCHITECTURAL ASSISTANTS, must have passed intermediate stage of an examination recognized by the Architects' Registration Council for U.K. Salary Scale A.P.T. IV/V, £580-£615-£680 per annum.
- (3) TEMPORARY ASSISTANT with experience in Drawing Office. Salary £450 per annum.
- (4) APPRENTICE ARCHITECT, must be of educational standard for acceptance by College of Art.

Apply by letter giving full details and stating clearly which post is applied for, within 14 days of the appearance of this advertisement, to A. Steele, City Architect, City Chambers, Edinburgh, 1. [8325]

APPOINTMENTS—contd.

BERKSHIRE COUNTY COUNCIL.

1. ARCHITECTURAL ASSISTANT, Grade IV (£580-625). Candidates should have had office experience and have reached R.I.B.A. Intermediate standard or have recently completed a recognised architectural course. Opportunity will be given to obtain a varied experience in Local Government work.

2. QUANTITY SURVEYING ASSISTANT, Grade III (£550-595). Candidates should have had experience in taking-off in accordance with the Standard Method, the settlement of final accounts and should have passed the Intermediate Examination of the Royal Institution of Chartered Surveyors.

Application forms and further particulars can be obtained from the County Architect, Wilton House, Parkside Road, Reading, to whom they should be returned by Wednesday, September 22nd, 1954.

E. R. DAVIES, Clerk of the Council. [8310]

LONDON ELECTRICITY BOARD.

ENGINEERING DRAUGHTSMAN.

APPLICATIONS are invited for the above position in the Western Sub-Area Drawing Office in Central London.

Candidates should have a good general and technical education with experience of tracing, lettering, isometric and freehand drawing. The post is graded under Schedule "D" of the National Joint Board agreement as Grade 6—£458 to £595 7s per annum, inclusive of London Allowance.

Application forms, obtainable from Personnel Officer, 46, New Broad Street, E.C.2, to be returned completed by 18th September, 1954. Please enclose stamped addressed envelope and quote ref. V/1810/AA. [8320]

EDINBURGH COLLEGE OF ART.

APPLICATIONS are invited for the post of ASSISTANT INSTRUCTOR IN BUILDING CONSTRUCTION in the SCHOOL OF ARCHITECTURE. Salary scale, £690-£730-£990 per annum; commencing salary will be determined according to qualifications and experience.

Applications are also invited for the post of ASSISTANT INSTRUCTOR in the School of Architecture. Salary scale, £690-£730-£990 per annum; commencing salary will be determined according to qualifications and experience.

Forms of application and conditions of appointment can be obtained from the Secretary, Edinburgh College of Art, Edinburgh, 3, and should be returned to him not later than 30th September, 1954. [8322]

COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF WORKS, CANBERRA.

VACANCIES FOR ARCHITECTS.

APPLICATIONS are invited for employment as ARCHITECT GRADE 3 (8 positions) and GRADE 2 (4 positions) at Canberra, Australian Capital Territory.

The salary range in Australian currency for Architect Grade 3 is £1,178/£1,262 and for Grade 2 is £1,106/£1,154.

Duties—in connection with design and/or execution of building works including the supervision where necessary of Architects and Draughtsmen.

Qualifications required—applicants must be registered Architects by examination or registered Architects who since registration have passed any professional examination in Architecture recognized by the Architects Registration Council of the U.K. as qualifying for registration under the Architects Registration Act.

Accommodation will be available for successful applicants and their dependants.

Applications, stating full name, date and place of birth, marital status, qualifications and experience, should be forwarded to Works Representative, Australia House, Strand, London, W.C.2, by 30th September, 1954. [8311]

APPOINTMENTS—contd.**COUNTY BOROUGH OF EAST HAM.**

TEMPORARY ESTIMATOR Grade V—£620-£670.
 SENIOR QUANTITY SURVEYOR Grade VI—£695-£760.
 SENIOR ENGINEERING ASSISTANT Grade VI—£695-£760.

LONDON Weighting is paid in addition. Salary in excess of the minima may be paid according to qualifications and experience.
 Subsistence allowances may be granted over a reasonable period to persons appointed if unable to obtain suitable housing accommodation, necessitating the maintenance of two homes.
 Further details and application forms, returnable by 27th September, 1954, from the Town Clerk, Town Hall, East Ham, E.6. [8314]

CONTRACTS**BROMSGROVE URBAN DISTRICT COUNCIL.****BROAD STREET HOUSING ESTATE—SECTION No. 1.****ERECTION OF HOUSES AND FLATS.**

THE Council invite tenders for the erection of houses and flats on the Broad Street Housing Estate, Section No. 1, in one contract as follows:—
 10 Pairs Type "K."
 2 Pairs Type "L."
 10 Blocks of 4 Type "L."
 1 Block of 12 2-bedroom Flats
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 together with drains, paths, retaining and link walls and all other ancillary works.

Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, Council House, Bromsgrove, on a deposit of £3 3s. The deposit will be refunded on receipt of a bona fide tender and the return of all documents.

Plans may be inspected at the office of the Engineer and Surveyor, Council House, Bromsgrove, or the Quantity Surveyor, R. H. Crump, Esq., Redditch Road, Holloway, Alvechurch, Worcestershire, during the usual office hours.
 Tenders in plain sealed envelopes endorsed "Broad Street Housing Estate, Section No. 1" are to be delivered to the undersigned not later than 12 noon on Saturday, 9th October, 1954.

The Council do not bind themselves to accept the lowest or any tender, and any acceptance is subject to the approval of the Ministry of Housing and Local Government.

F. A. JESSOP,
 Clerk to the Council.

Council House,
 Bromsgrove.
 2nd September, 1954. [8321]

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Principal:
 T. J. Drakeley, C.B.E., D.Sc., Ph.D. (London), F.R.I.C., F.I.R.I.
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DAY SCHOOL OF ARCHITECTURE.

THE Northern Polytechnic Diploma in Architecture, which is awarded on the successful completion of the five years' full-time course and subsequent passing of the examination in Professional Practice, qualifies students for exemption from the Final Examination for Associateship of the Royal Institute of British Architects. The Diploma is also accepted by the Architects' Registration Council of the United Kingdom as a qualification for registration under the Architects (Registration) Acts, 1931-1938.

School year begins 27th September, 1954.
 Fees—£28 per annum.
 Students under the age of 18 may be admitted free.

EVENING SCHOOL OF ARCHITECTURE.
 (Five years' Course recognised by the R.I.B.A. for exemption from the Intermediate Examination.)
 New session begins 27th September, 1954.
 Fees from 30s to 70s per course.

Special Design classes, and lectures on the Theory of Structures, Hygiene, Materials, Specifications, and Professional Practice in preparation for the Final Examination of the R.I.B.A.

PART-TIME DAY CLASSES.

A leaflet describing part-time day courses will be sent on application.

ENTRY TO THE SCHOOLS. Intending day students are interviewed by appointment. Intending evening students will be interviewed from 5.30-7.30 p.m. on 20th and 21st September, or on any subsequent Monday evening at 6.30 o'clock.
 Prospectus post free on application.

Telephone: North 1686. [8288]

EDUCATIONAL—contd.**ESSEX EDUCATION COMMITTEE**

SOUTH-EAST ESSEX TECHNICAL COLLEGE & SCHOOL OF ART.
 Longbridge Road, Dagenham.

ARCHITECTURE COURSES.

PART-TIME Day and Evening courses in Architecture are held at the South-East Essex Technical College, and they will not be affected in any way by the recent decision to discontinue full-time courses in Architecture.

Enrolment for Day courses—13th September, 10 a.m. to 12 noon.

Enrolment for Evening courses—13th to 17th September, 6.30 to 8.30 p.m.

Classes commence—20th September.

Further information and prospectus from the Head of the Arts Department. Telephone: Seven Kings 3766. [8313]

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REQUIRED: Architectural Assistants preferably up to or over Intermediate R.I.B.A. standard with experience in Industrial and Commercial work. Also Architectural Draughtsmen.

All applicants should preferably have experience in precast concrete and reconstructed stone. Superannuation scheme—Apply in confidence, with details of experience, copies of references and salary required, to Deputy Managing Director, The Croft Granite, Brick and Concrete Co., Ltd., Croft, Leics. [8316]

ARCHITECT'S assistant required for West End office.—Write, stating salary required and full particulars, to Box 7386. [83147]

ARCHITECTURAL assistant required for West End office.—Write, stating salary required and full particulars, to Box 7691. [83126]

HIGH WYCOMBE firm of architects requires architectural assistant, preferably qualified, salary according to experience.—Write giving age and particulars to Box 7651. [83109]

QUALIFIED Architectural Assistants with experience required by Fry, Drew, Drake & Lasdun.—Applicants should write, giving details of training, qualifications, experience, etc., to 63, Gloucester Place, W.1. [83118]

SENIOR architectural draughtsman required in estate development office, N.W. London; experience in factory design and construction essential.—Write, stating age, experience and salary required, Box 7512. [8298]

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Official Notices, Tenders, Auction, Legal and Miscellaneous Appointments on pages 44 and 45

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British Ebonite Co., Ltd.	42	Engert & Rolfe, Ltd.	35	London Brick Co., Ltd.	16		
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British Reinforced Concrete Engineering Co., Ltd., The	42	Finlock Gutters, Ltd.	27	National Association of Putty Manufacturers, The	42		
British Portland Cement Co., Ltd.	20	Finnish Lion Board	3	National Federation of Clay Industries, The	9		
Canton Switches, Ltd.	37	Flavel, S., & Co., Ltd.	35	Norwood Steel Equipment (London), Ltd.	32		
Cement Marketing Co., Ltd., The	23	Freeman, J., Sons & Co., Ltd.	35	Nu-Swift, Ltd.	36		
Chatwood Safe & Engineering Co., Ltd.	34	General Electric Co., Ltd.	25	Penfold Fencing & Engineering, Ltd.	8		
Churchouse, C. M., Ltd.	39	Gibson, Arthur L., & Co., Ltd.	35				
		Gilks, J., & Co., Ltd.	17				
		Gray, J. W., & Co., Ltd.	37				
		Hangers Paints, Ltd.	43				

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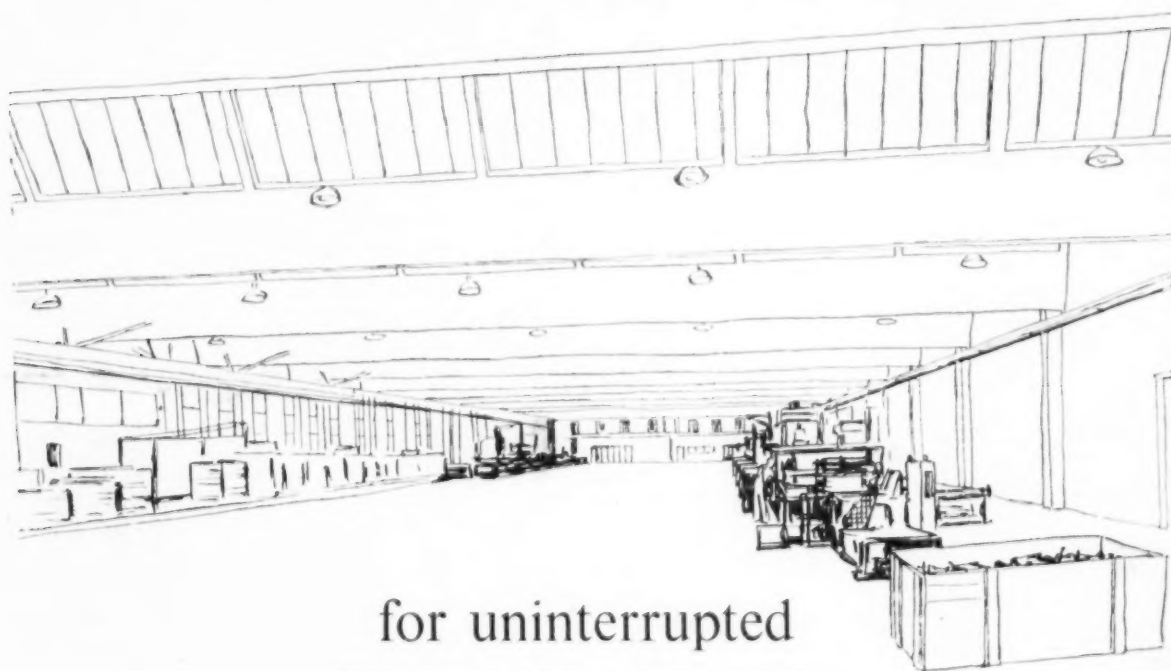
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